

American Fruit Grower

MARCH • 1956



Renewing Your Orchard • Peach Pruning Tips

Lower Your Hauling Costs... Increase Your Profits...

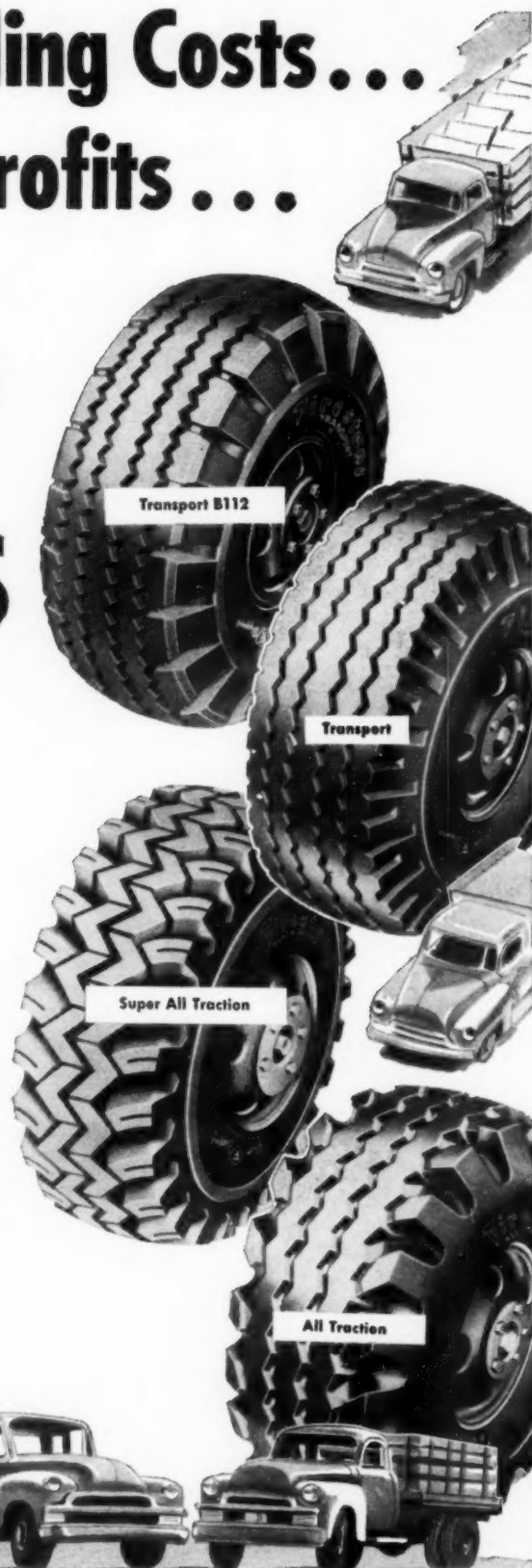
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HEAVY DUTY
TRUCK TIRES

THE extra mileage and traction you get with Firestone Heavy Duty Truck Tires can be a big factor in cutting your hauling costs and increasing your profits.

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CRAG Glyodin gives you real

Trade-Mark

**scab protection in heavy rains and the BEST apples at
LOWEST COST**

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You can use
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Thousands of growers over the past seven years have proved to themselves that CRAG Glyodin gives exceptional scab control even through prolonged rainy periods. For greater profits, put CRAG Glyodin in your spray program. Get it at your dealer now.

USE THE CRAG GLYODIN PROGRAM ALL SEASON

EARLY SPRAYS		COVER SPRAYS
GLYODIN for protection	ADD MERCURY when needed for back action	GLYODIN for added protection



CARBIDE AND CARBON CHEMICALS COMPANY

A Division of Union Carbide and Carbon Corporation
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"NOW I NEVER WORRY about tipping, jackknifing, or being pushed around!"

says William Martin, operator
for Charles E. Blake, Poughkeepsie, N. Y.



"I cannot use any other tractor on the very steep hills when pulling a fully loaded speed sprayer. I've used other types of crawlers, but prefer CAT* D2 Diesel Tractors because the operator is sure of footing... never has to worry about tipping over, jackknifing, or being pushed around."

With more orchardists proving the importance of good air drainage for quality production of fruit, you'll see more orchards being set out on steep hillsides. Finding that wheel-type tractors are unsuited for hillside operation, progressive orchardists turn to Cat Diesel D2 Orchard Tractors.

Far safer on hills... traction and stability to pull heavy sprayers at a uniform pace up hill and down without rearing... positive, uniform power for both tracks for easy steering and resistance to jackknifing when going down hill with a heavy load... diesel power that delivers 38 honest drawbar horsepower in every soil condition, yet costs less for fuel than most small gasoline wheel tractors... these are but a few of the *bonus* advantages you'll realize from owning a Caterpillar Diesel D2 Tractor.

Your Caterpillar Dealer will show you many more... see him soon!



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Just off the press, "Why Deep Tillage?" presents a factual report on subsoiling, deep cultivation and plowing. Get your free copy from your dealer or write Caterpillar Tractor Co., Dept. AMF36, Peoria, Ill.

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Peoria, Illinois, U.S.A.



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American Fruit Grower

REG. U.S. PAT. OFF.
The Only National Fruit Publication

Vol. 76 MARCH, 1956 No. 3

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Blossomtime and honeybees are synonymous—but the wise grower will use extreme caution during the spraying season to avoid injury to his useful friends. Photo by Bob Taylor.	
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AMERICAN FRUIT GROWER

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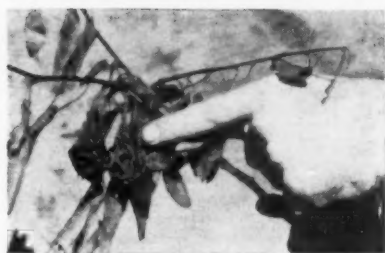
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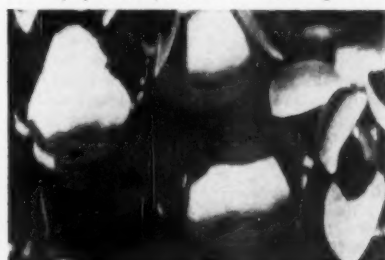
now
spray
away

FIRE BLIGHT

with **Agri-mycin*100**



This loss can now be prevented. Photo shows severe fire blight infection to check tree purposely left unsprayed. Big loss of current crop—much bigger loss in future yield due to permanent injury to tree, loss of fruit-bearing wood.



Agri-mycin-sprayed tree in same orchard shows complete control of fire blight. Heavy foliage, heavy yield of top-quality fruit with no russetting as is often caused by copper sprays.

9.34 oz. jar makes up to 330 gallons spray. Save over 20% on economy size 25 lb. drum. Available from your supplier of spray materials.

Pfizer

*Pat. Pending

©Terramycin Brand of Oxytetracycline



Healthier, blight-free, fruit-producing stems mean more premium fruit... more money at harvest

The effectiveness of Agri-mycin as a control for fire blight has been thoroughly proved by the U.S.D.A., by State Universities, experiment stations, and large commercial growers throughout the United States and Canada.

Agri-mycin protects your young trees against fire blight. Saves valuable fruit-producing wood from excessive pruning due to disease. Protects susceptible blossoms and twigs from bacterial invasion in trees of all ages. Agri-mycin cost for a complete protection program (2 bloom and one cover spray) averages as little as 45¢ a tree.

Agri-mycin is the only antibiotic spray material containing both streptomycin and Terramycin®. Terramycin increases the effectiveness of streptomycin by synergistic action and helps give your orchard more lasting protection against streptomycin-resistant strains of the fire blight organism (*Erwinia Amylovora*).

Blighted apple trees had been yielding only 2 bushels per tree compared to orchard average of 6.6 bushels. After spraying with Agri-mycin yield jumped to 9 bu. per tree. Yield increased 450% over blight years, 30% over orchard average.

COBDEN, ILLINOIS

Agri-mycin gave 95% control. In same block we intentionally skipped trees. Blight was severe in these unsprayed trees. Agri-mycin gave much better control than copper sprays.

KANSAS CITY, KANSAS

Although my orchard had serious blight every previous year, Agri-mycin kept it blight free. Had bumper crop of premium fruit.

TROY, OHIO

Agri-mycin gave us a 20% yield increase from 500 trees. Check trees (unsprayed) showed crop reduction of 15-25% due to blight.

MOORESVILLE, INDIANA

SEND FOR LITERATURE

Chas. Pfizer & Co.
Dept. AFG-3
Brooklyn 6, N. Y.

Please send further information on Agri-mycin in the orchard, and where to buy.

Name _____

Address _____

City _____ State _____

Kind of fruit _____ No. of trees _____

Watch this Mounted Disc

- FOLLOW THE GROUND



FORD FLEXO-HITCH DISC HARROW

Notice above how the left tractor wheel has dropped into a dead furrow. On most lift-type harrows this would make the left-hand gangs dig in, causing the tractor to bog down. The right-hand gangs would ride high, out of the soil. This would leave a strip of undisc'd ground.

But not with a Ford Flexo-Hitch Disc Harrow! Regardless of the rock and roll of the tractor on rough ground, the disc follows ground contours, discing all the ground to a uniform depth. You can see the difference in smoother discing. But that's not all.

The Ford Flexo-Hitch Disc Harrow is *heavy* for deep penetration . . . *strong* for long life . . . *flexible* for smoother discing . . . *lift-type* for easier operation.

So stop in and look over the new Ford Flexo-Hitch Disc Harrow at your nearby Ford Tractor and Implement Dealer's. You're welcome to try it on your own farm, without obligation. Tractor and Implement Division, Ford Motor Company, Birmingham, Mich.

Ford Farming
IS NEW DAY FARMING

LETTERS TO THE EDITOR

Saves 'em!

Dear Editor:

I do want you to know that I think your magazine is absolutely the best that I know. I have made a file of all the copies we have received over the years.

Apollo, Pa.

C. R. Moore

Apple Growers' Co-operative?

Dear Editor:

Why can't Michigan apple growers get more money for their fruit?

First, the chain store buyers tell us that we don't have a uniform grade, or a grade that can be trusted over the telephone. Every grower decides what a fancy apple should look like and makes his pack accordingly. The honesty factor in grading is too variable and large buyers can't get enough apples of the variety and grade that they want in one place.

Inventories are so strictly controlled nowadays in all businesses that an enterprise like a food chain must know exactly what day their apples will arrive, in what number, and what grade. Price is of secondary importance; they will mark up their percentage and get it, regardless. But the reliability of the source is a must, and the source must have enough apples to keep on supplying them all season.

Second, our state pomological specialists tell us that we must grow the varieties that our customers want and nothing else. All of us hate to pull out trees of unpopular varieties that still produce well, and we sell our good varieties on condition that the buyer take the off-brands as well. In the end, we've given away our off-brands in a lower price for the whole crop.

Third, a representative of a co-operative from Washington state spoke at our 1954 annual horticultural society meeting and told us that he grows them as he sees fit, but his grading and packing and all the rest is done by the co-operative. There is no chance to up-grade his own crop. A central office handles all sales, no grower may sell his own apples. In that manner an order of any size and grade may be filled, and its delivery timed.

Of course, all that means an end to a lot of individual freedom—no more dickering, no choice of markets, plenty of chance to criticize the way things are being handled. It will mean cold storage plants and grading crews and the kinds of containers the stores want and office help and commissions and plenty of other little costs. But it will sell apples!

Must we wait until we are all hurt badly enough individually before we will co-operate and keep on co-operating? Will we pull out of the co-operative and free-lance again as soon as Michigan apples have regained some of their reputation and are bringing good prices? Would we be willing to see laws enacted or otherwise obligate ourselves to keep on co-operating?

We must accept the fact that the old days are gone. The supermarkets no longer buy bargain apples, and they buy only what they need. When we go to town as shoppers we expect the store will have what we want, and the reason is because they fill their store with the merchandise that we, their customers, want, and not with what we, the apple growers, want to sell them.

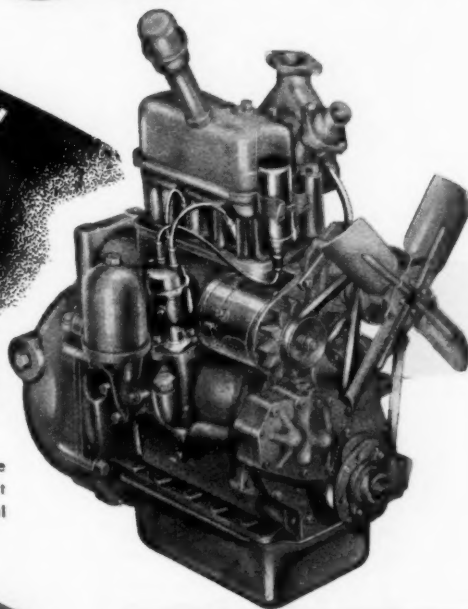
Anybody want to start a co-operative? Kewadin, Mich. Ernest F. Harrett

AMERICAN FRUIT GROWER

In the Spotlight for 1956



THE NEW 2-3 PLOW JOHN DEERE "420" TRACTORS



How many acres do you farm? 50? 100? 200? 500? Whatever your acreage, whatever crops you grow, you will want to see the new John Deere "420."

It's the kind of tractor you've been wanting for complete power . . . as a second tractor . . . or a third. Best of all, it's a tractor you can have any way you like. Ten models—all built around the powerful new John Deere "420" engine—let you choose the right tractor for the particular jobs you want to do.

The John Deere is light on your pocketbook, but man, what a day's work it will do! Here is power to handle 3-bottom plows in many conditions, 8-foot double-action disk harrows, 4-row planters and cultivators if you desire—approximately 20 per cent more power than the John Deere "40" Series Tractors, which they replace.

You'll find all the time-proved John Deere advantages—simplicity . . . quality construction for long life . . . wide adaptability to all farm work . . . extra

10 models . . . 8 wheel-type
and 2 crawler . . . all built
around the new and powerful
John Deere "420" engine.

**20%
More Power**

THAN THE "40" SERIES
WHICH THEY SUCCEED

comfort for the operator, sitting or standing . . . ease of handling . . . modern hydraulic control of integral or drawn equipment . . . and, above all, the honest dollars-and-cents economy that farmers have associated with John Deere Tractors for more than 30 years.

So don't wait . . . get your hands on the new "420" soon.

Send for FREE Literature

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Please send me free literature on the
_____ Tractor.

Name _____

R.R. _____ Box _____

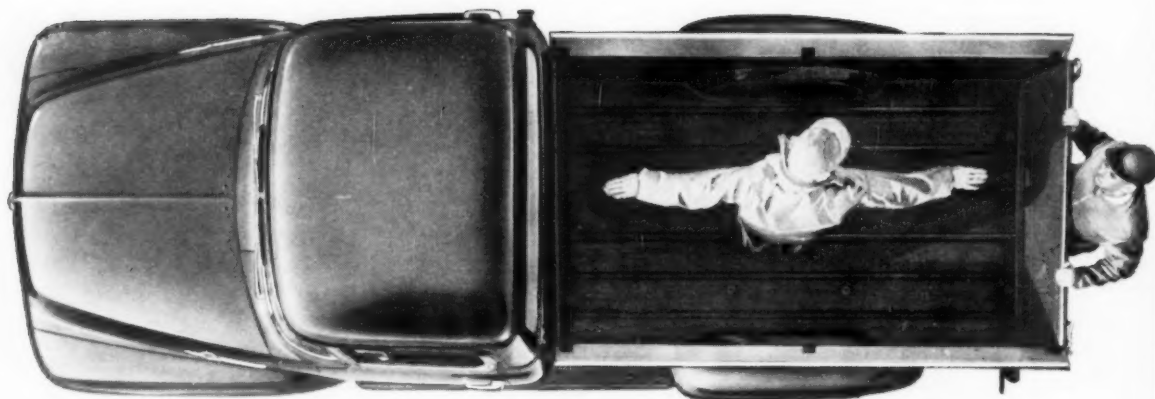
Town _____

State _____



JOHN DEERE
MOLINE, ILLINOIS

THIS IS YOUR YEAR TO BUY JOHN DEERE



Any way you look at it— Ford gives you the most

Most Power! New '56 Ford gives you more horsepower per dollar than any other pickup truck. Choice of 167-hp. V-8 or 133-hp. Six, both Short Stroke.

Most Capacity! Biggest box in the half-ton field! New Ford 8-ft. box on 118-in. wheel base (optional at small extra cost) offers up to 19 cu. ft. more capacity than other half-ton pickups.

Most Safety Features! Only Ford Trucks offer a Life-guard steering wheel and Life-guard door latches (standard equipment). Seat belts are also available at low, extra cost.

Most Comfort! New cab! It's DRIVERIZED! Only Ford has it! New wrap-around windshield with built-in visor. Exclusive seat shock snubbers . . . Custom Cab (available at worth-while extra cost) has 14 luxury features including 5-inch foam rubber seats.

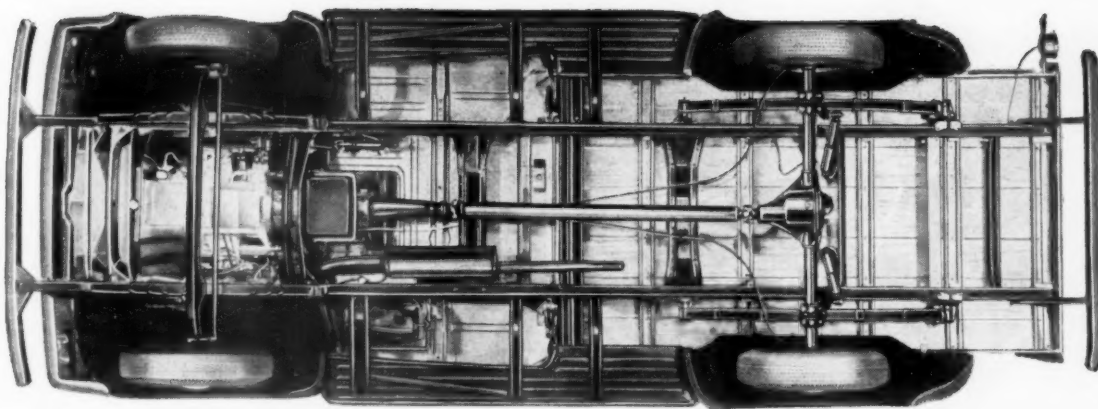


Compare it! Compare it with any other pickup, and you'll see why you get the most pickup truck for your money in a new Ford for '56.

Compare *power* and *capacity*. You'll find the new Ford Pickup gives you more horsepower per dollar than any other pickup (based on comparison of new horsepower with suggested list price). Ford's new

8-ft. other ft. P

Co Lifeg truck by it



Bird's-eye view (left) shows the extra capacity you get in the new 8-ft. box now available on Ford half-ton trucks. Worm's-eye view (above) shows the

rugged truck construction throughout, with wide-tread front axle, rugged parallel rail frame, tubular-type drive line and husky hypoid rear axle.

st Pickup truck for your money



Only Ford gives you Lifeguard Safety Features!



New deep-center Lifeguard steering wheel helps protect driver from the steering column.



New Lifeguard latches for doors add protection against doors jarring open on impact.

The driving treat that can soon pay for itself... **FORDOMATIC**

Fordomatic ends clutch repairs... cuts maintenance costs... acts as a "shock absorber" for the power train. Fordomatic makes driving easier. Also helps trade-in value. (Available at worthwhile extra cost.)



8-ft. box offers more cu.-ft. capacity than any other pickup in the 5,000-lb. G.V.W. class (6½-ft. Pickup box standard on 110-in. wheelbase).

Compare *safety* and *comfort*. Ford gives you Lifeguard safety features available in no other truck. For comfort, the new Ford cab is in a class by itself. It's DRIVERIZED! Only Ford has it!

36 Ford Economy Trucks



Film made of BAKELITE Brand Polyethylene makes packages "more attractive, the gleam of the polyethylene helping to increase the brilliance of the fruit . . . printing on the bag stays brilliant . . . bags are stronger and more durable than with other flexible films. And, because with polyethylene bags there's less moisture loss and less shrinkage, fruit lasts longer at room temperature."

polyethylene bags for fruit are

"Better than any other packaging"

"I would estimate business as having jumped about 30%, due in large part to the attractive appearance of the polyethylene package." That's the conclusion of Edward A. Melia, Jr., general sales manager of Pure Gold, cooperative marketing association of Redlands, Calif. (formerly Mutual Orange Distributors). "Furthermore, we now market *by the dozen* instead of *by the pound*."

The trend today for fruits and produce is to package in polyethylene film. Get started. Strengthen your hold on your markets. See your supplier today about packaging in film made of BAKELITE Brand Polyethylene.

*It pays to package in film
made of*



BAKELITE COMPANY, A Division of Union Carbide and Carbon Corporation UCC 30 East 42nd Street, New York 17, N. Y.
The term BAKELITE and the Trefoil Symbol are registered trade-marks of UCC

Announcing...



VANCIDE

An Exceptional New Fruit Fungicide Of Proven Merit

FULLY PROVED Niagara Vancide is a remarkable new fruit fungicide, having an unusual combination of desirable properties. This material has been on test for six years and in all fruit producing areas. It has been tested and approved by leading Experiment Station workers. And Niagara Vancide has been used in commercial orchards in most of the leading fruit growing areas for two full seasons with exceptional benefits to growers. It's now ready to go to work for you.

EFFECT ON FOLIAGE AND FRUIT In Niagara Vancide, growers get a mild, non-caustic fungicide that leaves no spotting effects on either foliage or fruit. It can be used on *all varieties* of apples, including Red Delicious, Baldwin and others that have been susceptible to injury by certain fungicides. Storage tests and the actual experience of leading growers demonstrate that Vancide sprayed apples have outstanding keeping qualities.

AVAILABLE IN TWO TYPES There are two Vancide formulations currently recommended. Vancide "A" is for early season primary scab control on apples. Vancide "M" is for season-long use to control scab and other diseases especially on russet-susceptible varieties as well as for any variety through the cover sprays.

PROPERTIES AND BENEFITS Niagara Vancide not only gives exceptional control over apple scab but has shown effectiveness over certain other important apple diseases. Its use has produced fruit of highest color, finest finish. Vancide is compatible with all insecticides, hence fits well into any combination program.

USAGE AND AVAILABILITY Both formulations of Niagara Vancide are furnished as wettable powders. They are easy-to-handle, non-toxic and non-irritating to the user. Vancide is available this year for limited commercial use. Be among the first to profit from its benefits. See your Niagara field man or write us for literature.

Niagara

CHEMICAL DIVISION

Food Machinery and Chemical Corporation

Middleport, N.Y., Richmond, Calif., Jacksonville, Fla., Tampa, Fla., Pompano, Fla., Wyoming, Ill.,
New Orleans, La., Ayer, Mass., Harlingen, Tex., Pecos, Tex., Yakima, Wash., Pine Bluff, Ark.,
Canadian Associate: NIAGARA BRAND SPRAY CO., LTD., Burlington, Ontario





Use either



BLACK LEAF

253

contains both DDT
and Parathion



Why mix two
when one cover spray
will give you
the most clean fruit?

or



NEW!

BLACK LEAF

258

contains both DDT
and Malathion

Simplify your spraying program by using *one* of these Black Leaf cover sprays. You'll stop the bugs, save work, and get your biggest clean fruit total.

In Black Leaf 253, an exclusive process impregnates each particle of the tobacco base with both DDT and Parathion. There's no mixing problem for you. Just dump Black Leaf 253 in the water as the spray tank fills.

Black Leaf 258 combines DDT and Malathion by the same process. Again, no mixing. Only Black

Leaf offers you these timesaving formulations.

Either of these dustless compounds controls codling moth, orchard mites, red-banded leaf roller, European red mites, grape berry moth, and similar insects attacking fruit.

You get long-lasting insect protection with practically no visible residue. You get high-profit finish and color. Ask your dealer for either Black Leaf 253 or Black Leaf 258—in 2½-pound bags, or 50-pound drums.



Diamond
Black Leaf
COMPANY

300 Union Commerce Building • Cleveland 14, Ohio



Grapes respond well to soil injections of anhydrous ammonia.

Now You Can INJECT NITROGEN Into Your Soil

Ease of application makes anhydrous ammonia a promising fertilizer for orchards, vineyards, small fruit plantings

By **JOSEPH D. CAMPBELL**

THE increase in the use of anhydrous ammonia as a fertilizer by direct injection into the soil has been so rapid that some writers have described it as spectacular.

Although this method of applying nitrogen has been used only about eight years, it is estimated that the 1954-55 consumption of anhydrous ammonia fertilizer will reach 475,000 tons, or roughly 22 per cent of the total fertilizer nitrogen.

The introduction of anhydrous ammonia has effectively assured growers of a plentiful supply of fertilizer

nitrogen at a reasonable cost. Previously there had often been shortages of nitrogen fertilizers to meet world needs at prices farmers could afford to pay.

Anhydrous ammonia as a fertilizer is attractive to fruit growers because no physical labor is involved other than driving a tractor and turning on valves. Anhydrous ammonia applied in the fall remains available for early spring growth. It has been widely accepted by leading soil and plant scientists as a source of nitrogen equal to and in some cases better than any other, and has been widely adopted by fruit growers on the West Coast.

Ammonia is the primary product and source of most of the other nitrogen fertilizers. It is and will likely remain the lowest cost nitrogen at the factory. Because it is the highest analysis nitrogen fertilizer (82 per cent N) it is the most economical to ship, even though it requires special equipment to handle and apply.

Tank cars holding 26 tons of ammonia are usually unloaded at local points into storage tanks. It is usually hauled from these tanks to growers' farms in 1,000-gallon tanks on trailers. Anhydrous ammonia flows under its own pressure into the applicator tanks mounted on tractors or trailers. There are several metering devices, each of which will accurately measure the flow of ammonia according to the desired rates of application.

From the meter the liquid ammonia passes through a valve into pressure tubing connected with the applicator blades, where it begins to vaporize at once. These blades are usually inserted in the soil to a depth of 4 to 6 inches, and the ammonia gas passes into the soil through a hole bored through the bottom of a stainless steel tube welded to the back edge of the blade. Most blades are made of thin, hard steel to pass through the soil with the least possible disturbance.

For orchard soils, especially those
(Continued on page 50)



First use of anhydrous ammonia in the East was on grapes (80 pounds per acre) in the vineyards of Meiers Wine Cellars, Inc., Isle St. George, Ohio, in the spring of 1953. Many West Coast growers have adopted practice of injecting this low cost, high analysis nitrogen fertilizer into their soils.

From OLD to NEW on the Same Orchard Site

Here are four methods you can use and precautions you should observe in replanting your old orchard

By **ELDON S. BANTA**

WE frequently find it necessary to plant an orchard site right back to orchard, mostly because it is the best site we have available.

Two questions arise when we plant old orchard sites to new trees. How best can we convert an old orchard to a new one with least loss in producing years? How can we get maximum growth from young trees set on old orchard sites?

In general four different systems are followed in converting old orchard sites to new ones. Where there is no hurry to get land back into production, old trees are bulldozed out and the soil "conditioned" for two or three years by growing and disking in heavy green manure crops.

In many areas this has proved to be the most satisfactory method. It gives you a chance to build up organic and nutrient levels of the soil and to put good tilth back into the upper root zone. You may be able to trap more moisture in top soil too which helps young trees take off quickly. You also give time for any tree root diseases to dissipate themselves and so not affect young tree roots. The same goes for some tree root feeding insects. But with nematodes, this delay in planting may not stop them. Other measures will have to be followed.

Another system involves bulldozing out old trees, and setting young ones immediately. Some growers set new trees on the exact sites of old trees, while others set them between old rows. There seems to be a slight advantage to the latter placement, as trees may make a little more growth in the first few years.

A modification of this system is to bulldoze out a hole where an old tree stood and push in fresh top soil from between the rows. The cost of this extra dirt moving seems to pay for itself in increased vigor of young tree growth and in shortening time until first harvest.

When following this system it is not necessary to tear up a good per-

manent sod on an old hill orchard site. Cultivation adjacent to the young tree seems to be sufficient. However, some growers plow up the entire field and seed it to soil building crops for three or four years. This helps build up fertility and organic content for use by trees in later years when cultivation ceases, as well as helping the newly set trees.

In many areas growers find setting young trees between old tree rows a suitable system. Young trees are set at a time when old trees are

ing. This may begin as soon as young trees are set, especially if new trees are set close to old ones. Heavy pruning of old trees will be necessary within a few years after planting wherever trees are set in this system. A few find if old trees are pruned severely enough each year, they can keep them until young trees begin to bear, then they must be removed completely. This system saves the most time between profitable production of the old trees and that of the new orchard. However,



The bulldozer is the most economical tool to use in removing old trees in the orchard.

just going over the hump of peak, profitable production. This may be when trees are anywhere from 22 to 35 years of age, depending upon the condition of the orchard.

Placement of trees in this system is a matter of choice. Some growers put them as close to old trees as possible, while others set them in the rows equidistant from the old trees on either side.

The major problem with this system is that this interplanting may interfere with such practices as tillage and spraying.

It also involves heavy pruning of old trees to prevent too much shad-

ing. This may begin as soon as young trees are set, especially if new trees are set close to old ones. Heavy pruning of old trees will be necessary within a few years after planting wherever trees are set in this system. A few find if old trees are pruned severely enough each year, they can keep them until young trees begin to bear, then they must be removed completely. This system saves the most time between profitable production of the old trees and that of the new orchard. However,

A fourth system consists of cutting the old tree off close to the ground, then setting the young tree as close to the stump in the row as possible. This may be the cheapest way to renew an old orchard site, but it has some pitfalls. If a young tree is set close to an old tree that had a diseased root system, it will pick up the disease and may die in a few years. The same goes for other tree troubles that may have existed in the old orchard.



Mulch around this young tree pulled it through its first two seasons of very dry weather by helping the soil retain moisture for a longer time.



Newly-planted dwarf trees on old orchard site at Ward Orchards, Olcott, N.Y., were saved from dying by irrigating from this portable water tank.



Several years of green manure crops built organic matter and nutrients into old orchard soil just set to new trees in Phil Johnson orchard, Mooresville, Ind.



A 32-year-old Stayman tree in Lorne Doud's orchard, Wabash, Ind. Young trees were set between old trees in 1950, and old trees pruned heavily to make way for growth of young trees.

What we have said so far fits apple orchards mostly, but the systems are applicable to other tree fruits as well. The matter of fertilizing the newly set orchard is important. Raw fertilizer elements or concentrated fertilizer solutions should not come in contact with tree roots, so fertilization comes after the tree is set. In general growers find a light application of a complete fertilizer—a 10-10-10 or a 10-6-4—quite suitable. This is usually applied in early summer after the trees have started new growth.

Trees start quicker and make rapid gains the first year if supplied

with sufficient soluble fertilizer. Fertilizers used in plant starter solutions range in analysis from a 15-48-15 to a 20-20-20. With 6 to 8 pounds mixed per 100 gallons of water, about 3 gallons are applied to a tree. The power sprayer or sprayer supply tank is often used to make this application to young orchards.

With the advent of captan and similar fungicides, some of the root rot hazards in planting young trees on old sites may be reduced. Roots of trees can be dipped in solutions of the fungicide just before planting. Some growers also use fungicidal solutions to treat tree holes and sur-

rounding soil just before tree planting. These treatments are designed to kill root-infesting fungi that may be in the soil. Their use may be questionable, but cost is small, so you may want to try one or both methods. At least they may give temporary protection from root rots.

Moisture is all-important to the new tree as it sends out its first roots. Watering individual trees the year after setting quite often pays off, especially if the season is dry. Irrigation has paid for some growers.

The most practical and generally the least expensive method of moisture conservation has been the application of fairly heavy mulch to the newly planted trees. Materials range from hay or straw to wood chips and corncobs. Mulch helps keep the soil in good condition for root growth.

In many areas of the country, and especially with peaches, we often run into difficulty with replanted orchards making unsatisfactory growth. Many times tree mortality is so high that the new orchard must be abandoned or removed. It is difficult to lay a finger on one specific

(Continued on page 52)



By E. F. SAVAGE
Georgia Experiment Station

WHEN one hears the word Georgia, he almost instinctively thinks of peaches. It is true that we have a small but excellent apple industry in the mountain regions, that we grow muscadine grapes from boundary to boundary, and that even satsuma oranges flourish on our southern border. However, it is the peach which we grow most extensively.

The state of Georgia and peaches have been associated for over 175 years. An early American botanist, William Bartram, found so many peaches in the state that he considered them native to this region. Undoubtedly, these were the honey-type peaches which the Spaniards first brought to Florida, and the Cherokee Indians transported into Georgia.

The Elberta variety, which originated from a seed planted in 1870 by Samuel H. Rumph at Marshallville, was the real cornerstone of the commercial peach industry in Georgia. Other important factors were the desire for an industry requiring less labor than cotton farming, and such technological advances as mechanical

THE FRUIT AREAS OF AMERICA

GEORGIA

refrigeration, the refrigerator car, and improved transportation equipment. By 1900 refrigerator cars began to move in solid trains with large icing stations along the main routes. This was the beginning of the modern Georgia peach industry.

From 1900 to 1928 the general trend in Georgia's peach production was upward. The peak was reached in 1928 with a 10 million bushel production and a tree population of 16 million. This overproduction brought serious financial loss to many growers and large numbers of orchards were pulled up. There was continued decline in the industry until a low point in peach tree population of around 3 million trees was reached in 1952. Since that time with the exception of 1955, a year of complete crop failure, Georgia peach growers have made money. There has been a new surge of planting so that in early 1956 the peach tree population stands at a little better than 4 million and is still increasing.

The Georgia peach belt is located in three separate sections. Each section has its distinct differences including the handling of its cultural problems.

The North Georgia peach section,

This is the eighth in a series of articles on important Fruit Areas of America. Previous "fruit tours" have taken us to New Jersey; East of the Cascades in Washington; California's Central Valley; the Ozark region of Missouri, Arkansas, and Oklahoma; New England; the Lower Rio Grande Valley of Texas, and Western New York.—Ed.

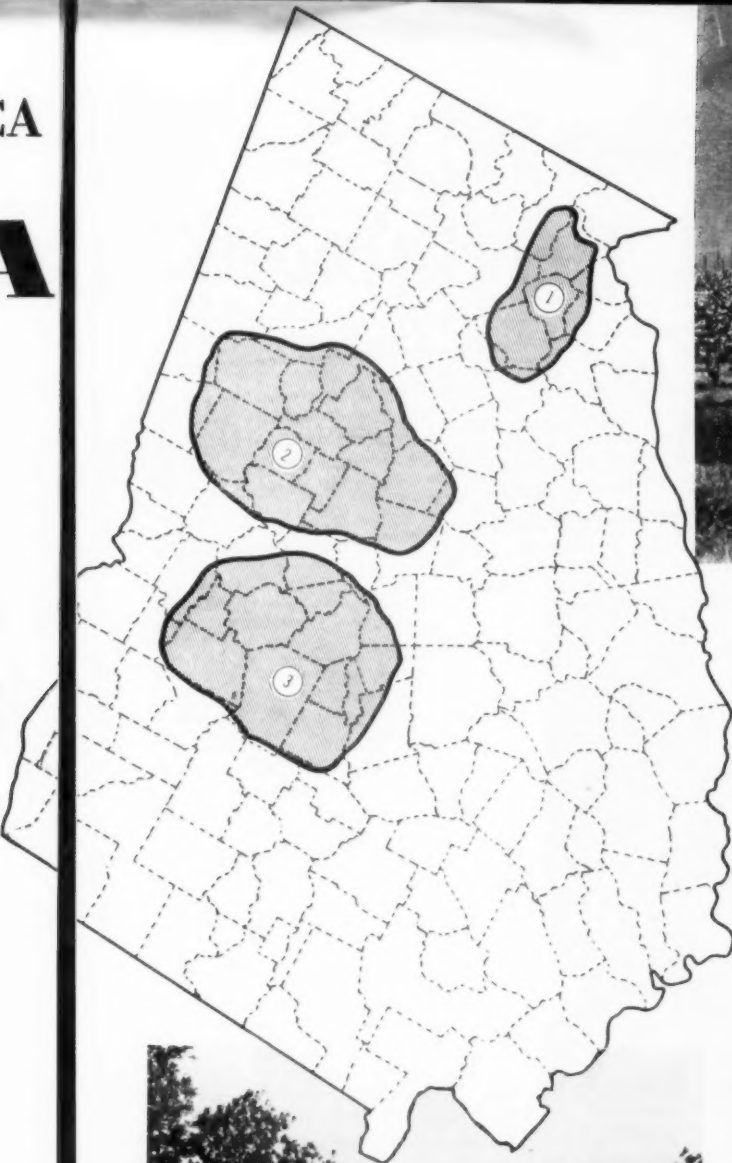
located in the upper Piedmont, has its centers at Commerce and Cornelia. This section, situated in the high rolling hills of Georgia, has problems much like the more northern peach growing sections. Peach leaf curl and oriental fruit moth trouble peach growers here. Late spring freezes are not uncommon. Gully erosion is often a problem.

This North Georgia section comes into production about the same time as the Spartanburg area of South Carolina. Since the Spartanburg area has a shorter rail and truck haul to distant markets, it provides serious competition for this section. At the present time the North Georgia peach section produces about 5 per cent of the Georgia commercial crop.

Seventy-five miles to the southwest lies the more sprawling Middle Georgia peach section with its orch-



Disking a peach orchard in the Middle Georgia section, where soils are heavy.



Georgia peach orchard in bloom.

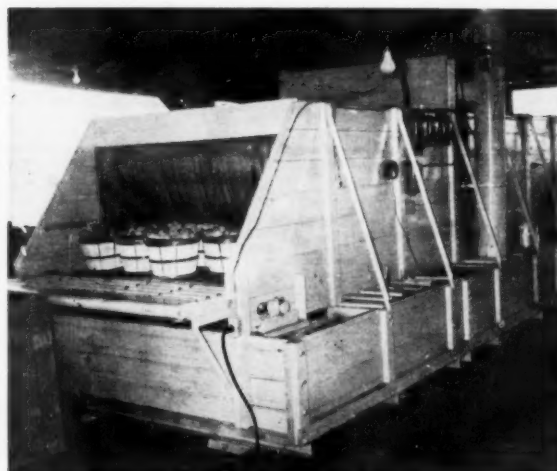
Peach-growing is concentrated in three sections: North Georgia (1) in the high rolling hills of the Upper Piedmont; Middle Georgia (2) in the hills of the Lower Piedmont; and South Georgia (3) on the sandy soils of the upper coastal plain. Three out of four Georgia peaches come from South Georgia.

varieties of the northern states, this, to date, has not been too serious an obstacle. The greatest production handicap is late spring frosts, and this is being overcome by wise selection of orchard sites. The soils are heavy, either sandy clay or silty clay loams. Many new plantings are being set in this section which now produces 28 per cent of the total Georgia commercial peach production.

Some 50 miles farther south lies the **South Georgia** peach section located on the upper coastal plain sandy soils. Fort Valley is the center of this large area of peach tree population. Its mean temperature is $4\frac{1}{2}^{\circ}$ F. higher than is found in the Middle



Pecans interplanted with peaches at Fort Valley in South Georgia section.



Georgia has pioneered the introduction of such equipment as this hydro-cooler which cools peaches from field temperature to below 45 degrees F. in fifteen minutes. In 1954 90 per cent of Georgia's packed peach crop was hydrocooled. Small growers can use facilities of custom packers.

ards located on the higher hills of the lower Piedmont. This section is troubled also with spring frosts, but leaf curl and oriental fruit moth are only occasional factors in production since the climate is hotter and drier. Ordinarily peaches are harvested before the oriental fruit moth becomes too bothersome.

In this section high yields per tree

are possible. Normally, varieties ripen about a week or 10 days ahead of the principal area of South Carolina. While the late varieties of this Middle Georgia peach section are faced with competition of the early ripening

Georgia peach section. The South Georgia peach section currently produces 68 per cent of the peaches grown in Georgia. It has been continuously in peaches longer than any
(Continued on page 56)

Is This the Answer to Eastern PEAR Production?

By LLOYD WARK

Lloyd Wark, South Haven, Mich., pear grower, had a curiosity. He wanted to know why he couldn't grow pears as they do in the West. He found out, and what's more, started growing pears in Michigan as they do it out West. Here, in his own words, is the story of how he satisfied his curiosity.—Ed.

MY story starts with a trip to Wenatchee in 1944. I was greatly impressed by the appearance of the pear wood in Washington. That first trip was made in December when the trees were dormant, and I promised myself that as soon as I possibly could, I would repeat the trip when the trees were in foliage. This I did in August, 1947.

I will never forget the pear orchard of Paul Stoffel at Cashmere, Wash. His tree performance seemed "out of this world" to me. The crop was about ready to harvest, and they would pick about 40 boxes per tree, with no blight. Trees were heavily pruned, heavily fertilized, and irrigated. This way of growing pears was exactly opposite to what I had always done and believed.

Mr. Stoffel gave me a soil sample to bring back, which I later sent to Michigan State University with one from my own orchard for testing.

His fertilizer program was 50 pounds of Vigoro (a 4-12-4 formulation at that time) per tree. He also



Insect and disease problems appeared to be much lighter under this program.

When I returned to Michigan, I applied 3,300 pounds to 4-12-4 Vigoro per acre in the fall with 10 tons of manure. In the spring I applied around 500 pounds of ammonium nitrate and another 150 pounds when the weeds were starting in early July. This amounted to 378 pounds of actual nitrogen per acre, which seemed ridiculous.

I also pruned out scaffold limbs to let in the sunlight, and headed back the tops and sides, with numerous small cuts to remove excess spurs on the horizontal limbs.

I did some cultivating early in the season before the weeds took over. With the last shot of nitrogen and irrigation, the weeds would be shoulder-high. I rolled these down at harvesttime.

The second year I used about 1,500 pounds of fine dolomite limestone per acre and 3-9-18 fertilizer, plus nitrogen, with the total actual nitrogen

reaching around 250 pounds per acre. The third year I used Vigoro plus nitrogen again.

I usually applied about 10 to 12 inches of irrigation water by the end of the growing season, September 1.

My spray program consisted of a dormant application of oil with $\frac{2}{3}$ strength dinitro powder. I handled the scab and maybe the blight with fixed copper and lime and a small amount of zinc. I used lead for worms and nicotine for psylla. I also used a sticker spreader, which I firmly believe in for most dilute mixtures except in the dormant application when using the oil-dinitro mixture.

I believe the blight sprays should have ability to penetrate, and of course this is usually done by lowering the surface tension of the water and adding a sticker to stop the run-off. However, this line of thinking is of little value with concentrate spraying.

The end result of this program was excellent finish, larger size, and fruit that topped the market. Yields in some blocks came up to 1,000 crates per acre on Bartlett's, and biennial cropping was reduced.

This program gave me about \$90 worth of fruit sold for every dollar spent on spray material, and I had practically no blight. This seems incredible, but it did happen. I have said very little about it, as it could get more people into trouble than it would ever help.

I suppose the most important factors in achieving these results were the heavy fertilizer applications coupled with the heavy amounts of organic matter going back into the soil and rotting at a fast rate. I understand that a given amount of organic matter will improve the soil structure more if the rotting takes place rapidly. Thus the nitrogen and irrigation during hot weather did the trick.

THE END.

COMPARISON OF SOIL TESTS FROM PEAR ORCHARDS OF PAUL STOFFEL, CASHMERE, WASH., AND LLOYD WARK, SOUTH HAVEN, MICH.

	Stoffel Orchard pH 5.5	Wark Orchard pH 5.95
PHOSPHORUS pounds per acre		
Acid extraction	240	19
Water extraction	89	3
POTASH		
Acid extraction	378	158
Water extraction	284	52
MANGANESE	8	16
CALCIUM	1200	800
MAGNESIUM	50	32

used 10 pounds of cyanamid per tree and 10 tons of manure per acre. About July 1 he applied 300 pounds of potash per acre in the irrigation ditches.

He also had very heavy cover crops growing, and their rapid rate of decay gave a very favorable soil structure which enabled the soil to hold large quantities of water and air.



• **Big Turnouts at Winter Meetings Reflect Good Crop Year**
 • **Horticultural Societies Get Behind "Gateway to Health" Film**

"Gateway to Health" a Hit

MISSOURI—Patterson Bain, fruit and vegetable marketing specialist with the state Department of Agriculture, is securing excellent coverage of the public schools with National Apple Institute's film, "Gateway to Health." The films were purchased by the Missouri State Horticultural Society and distributed by the Missouri College of Agriculture. In addition six copies of the film are serving greater St. Louis, four are in greater Kansas City, and two in St. Joseph.

A past president of the society, Fred S. Merrill, of St. Joseph, died recently at 66 years of age. He was with the Central States Orchard Co. from 1915 to 1938. —*W. R. Martin, Jr., Sec'y, Columbia.*

"Gateway" in Twin Cities

MINNESOTA—Commitments for four additional prints for the Minneapolis-St. Paul area of NAI's film, "Gateway to Health," were made during January. This makes a total of nine prints now available in the state.

Henry Luhman, an enthusiastic and progressive grower at Howard Lake, died November 30. He was a member of the state horticultural society for more than 18 years.—*J. D. Winter, Sec'y, St. Paul.*

APPLE TREES FOR PRESIDENT

President Eisenhower will be presented with some yellow delicious apple trees from Wenatchee, Wash., at his Gettysburg farm sometime in April. The presentation, sponsored by the Wenatchee Chamber of Commerce, will be held in conjunction with the Washington State Apple Blossom Festival.

Apple Barrel Congress

INDIANA—A new and lively feature of the Indiana Horticultural Society's 95th annual meeting was an "Apple Barrel Congress" held one evening. Here growers met informally with commercial men and experiment station workers for a free discussion of orchard problems. Refereeing the session was Eric Sharvelle, of Purdue University.

K. I. Fawcett, of Purdue, brought growers up-to-date on results with marketing firm-ripe peaches. During the past two years of the study, customers always preferred ripe peaches, even at premium prices. After handling ripe fruit, grocers said they would handle only this kind if they could buy it every day.

In a panel discussion of apple packaging, growers Max Kercher, of Goshen, David Simpson, of Vincennes, and Elmer May, of Terre Haute, agreed that polyethylene bags are going to carry an increasing number of apples to market. Also, the tray-pack will be used more and more to move large sizes and fancy fruit. To date Indiana growers have found the 4- and 5-pound polyethylene bags most suitable. Price of the bag in the retail store is a big factor and in general goes best when kept under 50 cents.

Milton Workman, of Purdue, reported that polyethylene liners are being used

more extensively now in both East and West Coast apple and pear storages. Cost for liners ranges from 8 to 12 cents per box or crate, but the prevention in moisture loss and other advantages have overbalanced the cost.

Preliminary tests suggest the possibility that Jonathan spot, scald, and other storage disorders may be reduced by the use of film liners. This depends in part upon how well the bags are sealed and the oxygen and carbon dioxide content within the bag. Extensive studies are under way at Purdue and other colleges to see whether the film bag can be made into a kind of controlled atmosphere storage.

Officers include Max Kercher, Goshen, president; Wilbur Yates, Vincennes, vice-president, and George Adrian, Indianapolis, secretary.—*E. S. Banta.*

New President for Mutual

FLORIDA—Vernon L. Conner, Mount Dora citrus grower, is the fourth elected president of Florida Citrus Mutual. A veteran Mutual director and secretary since

1949, he succeeds Perry Murray, who was killed in an auto accident in December.

While orange and grapefruit trees were damaged in isolated instances, the January cold weather did considerable damage to tropical fruits, particularly to bloom. Young lime trees were singed, a few killed, but the crop was not affected. Mangoes and avocados were damaged severely, as was a large percentage of the pineapple plantings.—*J. Francis Cooper, Agr'l Editor, Gainesville.*

Planting Pecans, Strawberries

KENTUCKY—Keen interest in growing pecans was displayed at the 99th meeting of the Kentucky State Horticultural Society. John Watts, county agent at Hickman, reported that last year some 500,000 pounds of pecans were gathered and sold from wild hardy pecan trees in Fulton County. This wild crop brought farmers around \$150,000 extra income. Now the interest is high in grafting wild trees to good hardy varieties and in making com-

(Continued on page 60)

FRUIT PEST HANDBOOK

(FIFTIETH OF A SERIES)

RASPBERRY FRUITWORMS

THE presence of raspberry fruitworms in plantings of raspberries and other cane fruits is usually made known by conspicuous and serious feeding injuries by the adult beetles to the blossom buds and tender leaves when the new foliage is unfolding in the spring. The leaves become riddled with holes and often the blossom buds are so badly injured that the crop yield is greatly reduced. Later, the maggots of these pests bore into the berries making them unfit for food.

The insects now known commonly as raspberry fruitworms actually comprise several closely related species of almost identical appearance and habits. These pests are widely distributed in the northern part of the United States and adjacent Canada. In

addition to raspberries they commonly infest such other fruits as blackberries, loganberries, thimbleberries, and salmonberries.

The adults or parents of raspberry fruitworms are light-brown beetles, 1/8 to 1/6 inch long. These beetles lay their very small, white, oval eggs on the green berries, blossom clusters, blossom stems, and leaf petioles. On hatching, the young maggots enter the blossom buds or young berries where they feed on the fleshy parts. Some of the infested berries dry up before ripening, others decay, and many others at picking time still harbor maggots feeding on or within the berries. The fully grown maggots are about 1/3 inch long, slender, yellowish-white with brown markings and sparsely clothed with hairs. When mature the maggots fall to the ground and enter

(Continued on page 66)



Raspberry fruitworm on raspberry leaf (left) and in berries. Photos courtesy Entomology Dept., New York State Ag. Exp. Sta.

B.F. Goodrich on-the-farm tire inspection month



LOOK AT THESE FREE SERVICES

Protect yourself from the expense and inconvenience of unnecessary tire failures during the busy days ahead. Take advantage now of B. F. Goodrich On-the-Farm Tire Inspection Month!

Any time during the next month your nearby B. F. Goodrich Service Man will come out to your farm to inspect all your tires, regardless of make. His services are absolutely free, place you under no obligation. Get ready for spring work now by having your B. F. Goodrich Tire Service Man:

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To celebrate On-the-Farm Tire Inspection Month, B. F. Goodrich is offering the highest trade-in allowances of the year on your worn tractor tires! Check with your B. F. Goodrich retailer and find out how much your tires are worth toward the purchase of a set of big, new B. F. Goodrich Power-Grip tractor tires.

Power-Grip tires have bigger shoulders, bigger cleats. No other tire is wider or has more cleats. This means Power-Grip tires take a big bite of the soil, give you maximum traction in forward or reverse. Power-Grip cleats are higher at the shoulders to penetrate deeper, braced at the base to wear longer. The result: these B. F. Goodrich tires give greater drawbar-pull, speed your tractor work.

What better time to talk to your nearby B. F. Goodrich retailer than during On-the-Farm Tire Inspection Month. You'll find your B. F. Goodrich retailer listed under Tires in the Yellow Pages of your phone book. Or mail the coupon.



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that returns top profit

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"NuGreen" comes in free-flowing shot form. Spreads evenly when you top-dress. No solid fertilizer can furnish more nitrogen per pound. Because "NuGreen" stays put in the soil, it's nitrogen you can depend on when trees demand peak nourishment.

"NuGreen" dissolves readily in the spray tank or in irrigation water. Sprayed on foliage, it gives your orchard a growth boost in a few hours. And with "NuGreen" there's no sediment, particle, or corrosion problem in equipment.

Sprayed or spread, "NuGreen" saves work. It's 45% nitrogen. You handle fewer bags



You get fast response, save time and labor, by adding "NuGreen" to pesticide sprays—to improve fruit set, leaf color, orchard vigor and yield.

because practically every pound of "NuGreen" becomes plant food. See your dealer for "NuGreen" today.

● For all crops . . . when they need nitrogen, feed them "NuGreen." "NuGreen" is the nitrogen you can count on. **For small grains,** an early top-dressing application gets them off to a fast start. **For plow-down,** "NuGreen" is tops; it's leach-resistant, stays put in the root zone to give crops full feeding values. There's no waste even during rains or thaws. **For vegetables,** "NuGreen" feeds them almost instantly whether side-dressed, applied in foliage sprays, or in irrigation water. "NuGreen" is the ideal supplemental nitrogen!

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"1000 bu. of Wealthy to the acre annually with the aid of ACP AMID-THIN"

—Says M. E. Buckman
Manager Sodus Fruit Farm, Inc.
Sodus, N.Y.



Untreated



Treated with
ACP AMID-THIN

"Growing good fruit of uniform size, color and quality," says Mr. Buckman, "is necessary for today's competitive markets. Thinning is an essential practice with many of the varieties we grow if this goal is to be attained. Hand thinning of apples is impractical in our operations. We have followed closely the developments of spray thinning over the past 15 years by our Extension Service.

"Having seen some of the early trials with ACP Amid-Thin conducted in this area by Dr. M. B. Hoffman, Cornell University, we began commercial use of this material in 1953, when it was first introduced. Use of Amid-Thin over 15 acres of Wealthy, normally a biennial bearer, has produced approximately 1000 bushels per acre annually since that time.

"We have also used ACP Amid-Thin with success on McIntosh, Rhode Island Greening, Baldwin, North West Greening, Stayman, and several other varieties when bloom conditions indicated an excessive set."

And to this testimony to the effectiveness of ACP Amid-Thin, Gerard G. Maier of Long Acres Fruit Farm, Newburgh, N.Y., adds his own experience. Mr. Maier, who is past president of the N.Y. State Horticultural Society, says:

"This past season we successfully thinned about 50 acres of Wealthy, McIntosh, Golden Delicious, Red Delicious, R. I. Greening, and Rome Beauty. In the face of severe drought conditions we produced good-sized fruit and have good bud prospects for next season.

"While many variables exist in any chemical thinning, we feel that ACP Amid-Thin is by far the safest material to use. We used it exclusively this past season and will use it again next season, provided the blossom period indicates the need for thinning."

ACP Amid-Thin, containing naphthylacetamide as the active ingredient, is being used safely and with great success on over 20 varieties in 13 leading apple-growing states and in Canada. Why not put it to work for you?

ACP Amid-Thin offers you these three specific advantages:

1. Can be used safely at such early stages of development as late bloom and petal fall without injury to foliage.
2. This early thinning without foliage injury will induce vigorous shoot growth and good-sized fruit, and will give a more favorable leaf-fruit ratio for fruit bud formation. This is especially important in aiding annual bearing of biennial bearing varieties.
3. Has a wider range of safety at concentrations necessary for thinning; so there is less likelihood of overthinning.

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AGRICULTURAL CHEMICALS DIVISION

Originators of 2,4-D and 2,4,5-T Weed Killers



Hulbert digs away a layer of wood mulch made up of prunings from his Fitchburg chipper. Dark area between his hands is damp wood mulch.

The Chipper Way to Quality Apples

Jewett Hulbert credits chipper for his top fruit prices

JEWETT Hulbert, of Nobscott Mountain Orchards, in South Sudbury, Mass., takes special pride in a block of Richared Delicious apples that bring him as high as \$6 a bushel. He calls it his "mortgage lifter"—and gives much of the credit for these extra-fine, premium quality apples to his Fitchburg chipper. This machine chops his prunings and brush into wood mulch—or as Hulbert's neighbors say, into dollars and cents.

Back in 1950 Hulbert bought one of the first chippers in Middlesex County. Clearing out the prunings in his 50-acre mountainside orchards had proved an expensive job—especially as his is a one-man operation. It had required a tractor equipped with a brush fork, a couple of sleds, and a crew of men to haul the brush away for burning.

Chips in Summer

Now he piles the prunings between the trees out of the spray route and chips at his convenience in the summer when his son is home from college.

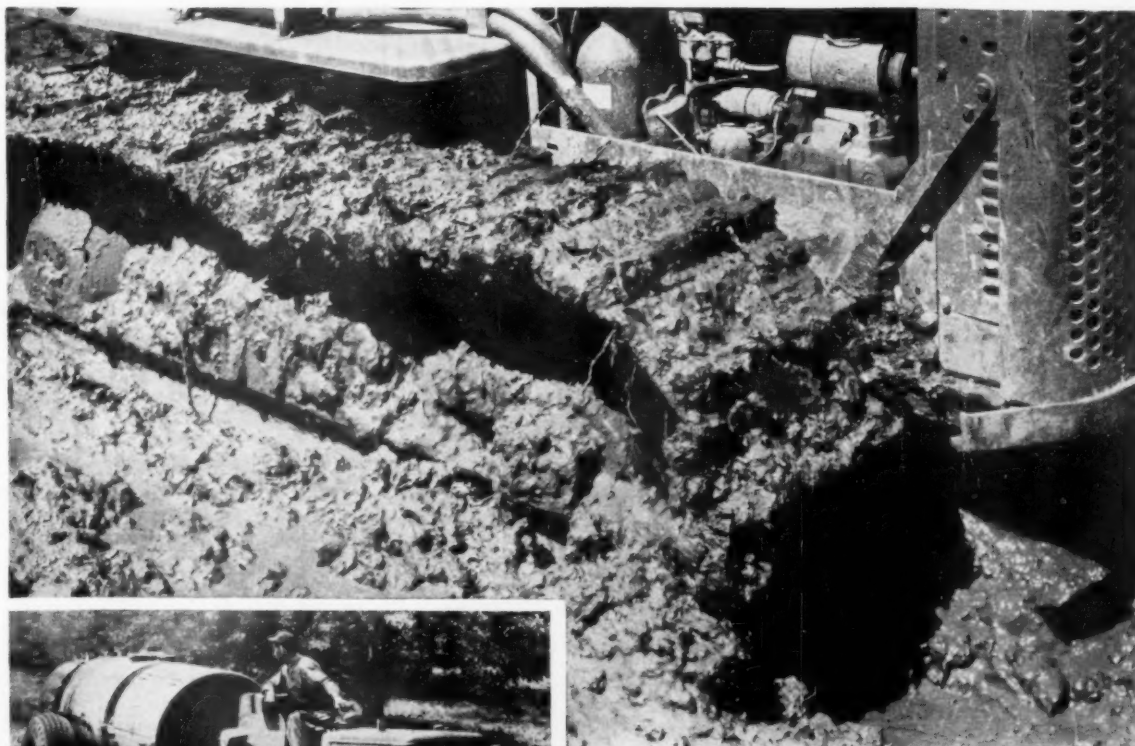
Prunings up to four inches in diameter are run through the chipper, which blows them in a wide, foot-deep circle around the trunk of the tree. Hulbert paid for his chipper the first year by doing custom work for his neighbors.

"The chips get slimy underneath and hold the moisture," he explains. "Mice refuse to work them, and they're fireproof."

Since he doesn't get nearly enough wood chips from pruning alone, Hulbert also chips up brush on the mountainside. They are blown into a tractor-drawn cart with 4-foot sides, and later hauled to the orchard and spread under the trees with a silage fork.—Charles L. Stratton.

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You get time-table EMERGENCY TRACTION



Even in hip-boot conditions you get sure traction

The International TD-6 crawler gives you pull-bracing emergency traction on its every-day shoes to help keep you right on your pest-control time-table. You master sand, muck, and slippery cover crop with these sure-gripping tracks. You get big-load traction, too—the kind that gives your income a three-way boost; from increasing man-power efficiency, stepping up

work quality, and helping the diesel slash 60% to 80% from a puffed-up gasoline fuel bill!

You get big-pay special-duty traction . . .

Build your own low-cost reservoir—grub-out tired trees—with this kind of traction that also has hill-climbing, slope-hugging stability. Exclusive IH ball-joint mounting provides track-to-ground contact for big work capacity on rough-and-tumble orchard improvement work.

Test seconds-fast International diesel starting and warm-up, hot or cold. Double-check *special delivery lubrication* through drilled passages; positive *one-system cooling*. And ask for a demonstration on your place from your nearby International crawler and matched McCormick equipment dealer. He's at your service!



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says world's largest

McIntosh growers—Chazy Orchards



At the big Chazy orchard in New York's Lake Champlain country—the world's largest McIntosh grower—the apples were 99 percent scab free—after spraying with Phygion-XL.

Phygion-XL effectively controls apple scab, bitter rot of apples and peaches. Brown rot blossom blight of peaches and many other stone fruit fungus diseases are also controlled. Its added advantages are low cost per acre, ease of use, high compatibility, mixes effectively with the most commonly used fungicides and insecticides, is harmless to pollen and bees, and does not affect odor or flavor of fruit.

Order Phygion-XL from your local supplier today. Write, wire or phone us if unable to locate immediate source of supply.



SEE—Naugatuck Chemical Division, United States Rubber Company, at work on NBC's "Color Spread" TV spectacular, Sunday, March 25, 7:30 PM, EST.

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Naugatuck Chemical Division
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FRUIT IN FIVE YEARS!

This apple orchard is paying its way—in five short years

By C. L. BURKHOLDER
Purdue University

WHEN can a young apple planting be expected to produce enough fruit to pay that year's operating expenses? An actual case history of a young apple orchard in northern Ohio may shed a little more light on this debatable topic.

The site of this orchard was a worn-out area of farmland that had been continuously farmed for 50 years with no attention to soil-building crops in the rotation. The sandy loam was so low in fertility that it would hardly grow 30 bushels of corn to the acre.

Cover Crops Planted

In the spring of 1949, the land was plowed and given an application of 1,000 pounds of 3-18-6 and planted to soybeans and sudan grass. The total top growth was very disappointing and in early September the area was disked, given a second application of 500 pounds of 3-18-6 and planted to rye. There was no special reason for selecting this analysis of fertilizer except that it was readily available and soil tests indicated very low phosphorus and slight potash deficiency.

In the spring of 1950 the rye was plowed under to a depth of 14 inches and a repeat application of 3-18-6 applied ahead of the soybean-sudan grass seeding. This time the sudan reached a height of 6 feet and had to be turned under with a heavy corn borer plow.



Five-year-old Grimes tree on ordinary seedling roots bore crop averaging one bushel per tree.

AMERICAN FRUIT GROWER

The winter cover of rye received 500 pounds of 3-18-6 and in the late fall of 1950 the apple planting was made. During the summer of 1950 a crop of soybean-sudan grass was again grown and the trees cultivated by hand. The heavy cover crop was worked into the soil with a Culticutter ahead of a fall seeding of rye. Only the winter cover of rye received fertilizer during the 1952-54 seasons.

All trees were on ordinary seedling roots (probably from Delicious seed) and made a very satisfactory though not excessive growth during 1951-55.

The trees have been pruned each year during the first week in July. Only branches were removed which seemed necessary to prevent weak crotches. All secondary branches throughout the trees were left undisturbed or lightly tipped once or twice if there was a tendency to be over-vigorous. Strong crotches coupled with early production was the aim of the pruning program.

The owner intends to never allow these trees to exceed 18 feet in height and width. Therefore a planting distance of 30 x 35 was used which gives approximately 40 trees to the acre. After the trees are in dependable annual production (by the ninth or tenth season) pruning will consist of the complete removal of a few of the most upright secondary branches each year, and light heading back where necessary to hold the spread of the tree within an 18-foot circle. When the trees become too bushy for the fruit to develop proper color in the lower and inner branches, some thinning of overlapping and shaded branches will be necessary each season.

Fifth Season Trees

In the fifth growing season the trees in this planting were very thick and bushy—almost like vigorous gooseberry bushes! They had sturdy trunks and scaffolds for their age, as well as large tops.

Normally apple trees on seedling roots are not expected to start fruiting until the seventh or eighth growing seasons. However, most of these trees not only bloomed, but set a light crop of fruit in 1955. The planting consists mostly of three varieties, for which 1955 yield records are given.

AVERAGE YIELD PER TREE IN FIFTH SEASON

Jonathan	3/4 bushel
Grimes	1 bushel
Galla	1/2 bushel

This yield was sufficient to pay most of the 1955 spraying and management expenses. Fruit bud prospects promise twice the above yield for 1956.

Published yield records of apple trees on semi-dwarfing rootstocks have rarely shown heavier early production than this. THE END.

MARCH, 1956

with **KARATHANE WD** for powdery mildew control

prevent

this



get

this



Powdery mildew, the felt-like mold that starts on leaves and may eventually attack the fruit itself, can now be effectively checked by KARATHANE WD in apple and pear orchards all over the country. KARATHANE WD is the first fungicide since sulfur to really control mildew. But unlike sulfur, it does not harm the blossoms, fruit or foliage of sensitive varieties, when used as recommended.

When applied at pre-bloom and again during the cover period, it is effective even against severe outbreaks. For apples, only 1 lb. of KARATHANE is needed for 100 gallons of spray; for pears, only 1/2 to 3/4 lb. Control is made still more effective by adding 2 or 3 oz. of TRITON B-1956 to assure thorough wetting and uniform coverage. Since KARATHANE WD is also a miticide, the same applications will control both mildew and European red, Willamette, two-spotted, and Pacific mites. Your supplier can give you a copy of our KARATHANE folder, which contains more complete information.

For healthier orchards and finer fruit, also use DITHANE Z-78 fungicide for sooty blotch, Brooks spot, black rot, and secondary scab.

RHOTHANE (DDD) sprays give unsurpassed control of red-banded leaf roller, and will aid in the control of apple maggots, and codling moth.

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How competitive pricing in transportation would help you

In most American businesses, the benefits of greater efficiency can be passed on to the public. In the transportation business, however, this is not always the case. Consider what has happened on the railroads:

In the last 30 years the speed of the average freight train has gone up more than 50 per cent; the load has nearly doubled and the hourly output of transportation has increased nearly three times.

To make possible these and other gains in efficiency, the railroads have spent, since the end of World War II, nearly \$11,000,000,000 — every dollar of which was financed by the railroads themselves.

But — as is shown in the report of a special Cabinet Committee appointed by the President — government regulation frequently denies to the public the benefit of the lower costs of the most economical form of transportation, so as to protect the traffic and revenues of carriers with higher costs. The result, as the Cabinet Committee says,

is that shippers and the consuming public must pay more for freight transportation than would otherwise be necessary.

What can be done to correct this unhealthy situation?

The special Cabinet Committee recommended that railroads and other forms of regulated transportation be given greater freedom to base their prices on their own natural advantages. At the same time, regulation would continue to prevent charges which are unreasonably high or unreasonably low, or are unduly discriminatory.

This would make it possible to pass on the benefits of the most efficient operations to shippers, producers and retailers, and to the consuming public which in the end pays all transportation costs.

Bills based on Cabinet Committee recommendations have been introduced in Congress. For full information about this vital subject, write for the booklet, "WHY NOT LET COMPETITION WORK?"

Association of American Railroads

Transportation Building, Washington, D. C.



The author, Thomas Van Horn, dusts a 28-year-old Northern Spy tree in his orchard at Metamora, Mich. He got 98 per cent control last year using a Niagara fan tail engine-driven duster.

The Van Horns
Like to

DUST for SCAB

WITH less than \$3,000 invested in dusting equipment, we get very good insect and disease control. Last year we harvested a large crop of apples that were 98 per cent free of scab, insects, stings, and worms.

Our equipment consists of a Ferguson tractor and a Niagara fan tail engine-driven duster. At the time we purchased the duster, engines were so high in price and so scarce that we went to a junk dealer and bought a Ford car with an 85 h.p. motor for \$40. This gave us an engine, frame, and four tires and wheels. We removed the body, engine, and front axle, and moved the rear axle to the center of the frame, making a two-wheel trailer.

We then had the engine overhauled at a cost of about \$20, and mounted the engine on the frame about 8 inches above the original seat. We left the transmission attached.

Hand-Wagged Tails

Our trial run was not much to brag about. We were bothered by having to stop at the end of each row to turn the fan tail on the duster. As this was done by hand, we lost about 30 seconds at the end of each row, and we have short rows besides.

At that time two-way starting motors were not to be had. In our scrap pile we found two Model T Ford starting motors. We mounted these so that one motor turned the fan tail to the right and the other to the left. The controls for the motor we fastened on the tractor within easy reach of the driver. We also carry the control for opening

AMERICAN FRUIT GROWER

and closing the dust to the tractor seat.

This duster has worked very well. Our land is very rough and hilly, and rows are only 25 feet long. Despite all the maneuvering, we can cover from 7 to 10 acres per hour.

Dust When It Rains

Our dusting starts as soon as the buds break on the end, and we dust every time it rains. This is important to remember—if it commences to rain, commence to dust, whether it is 1 a.m. or 1 p.m. You just can't lie abed and put it off till tomorrow.

If the trees are wet 24 hours, we dust again. Our scab program is carried on until about June 20, or until the danger of infection is past. We control scab with Niagara kolo 100, a sulfur phygon material. In the prepink and pink stages we use sulfur with 1.5 per cent parathion, and sometimes around the fence rows we use 2 per cent parathion. In the bloom stage we use a sulfur dust, and in the calyx stage a 1.5 sulfur parathion dust. If a long wet spell comes, we use sulfur with phygon.

Summer Spray Program

Our summer program is 10 per cent sulfur and 1.5 per cent parathion and 5 per cent DDT, applied alternately with 1 per cent parathion and 3 per cent DDT. If mites are a problem we use Niagaramite. We control our summer insects by dusting when we have rain. If there is no rain, we find that almost always, about 3 or 4 a.m., there is enough dew moisture for dusting.

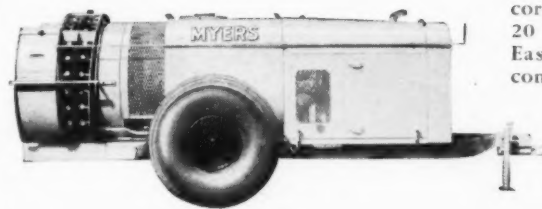
We dust from one side of the tree one time, and the other side next time. The amount of dust to use must be determined by experience, as the size of tree and the variety influence this. As nearly as I can figure, about $\frac{1}{3}$ to $\frac{1}{2}$ pound per mature tree is used at each dusting—*Thomas J. Van Horn, Metamora, Mich.*



Now at long last you can have that greenhouse you've been wanting. For \$250 you can build an 18x84-foot plastic greenhouse which would cost you \$4,000 if constructed of glass. Send 25 cents in coin or stamps to AMERICAN FRUIT GROWER, Willoughby, Ohio, for working drawings prepared by the University of Kentucky, together with descriptive leaflet.

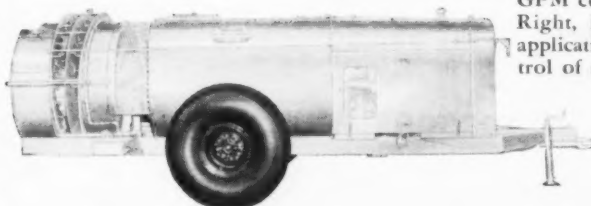
MARCH, 1956

NEW



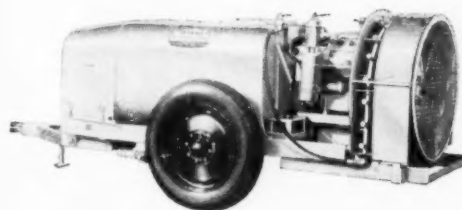
Concentrate Sprayer: 45,000 cubic feet of air per minute, 90 MPH. Left-hand, right-hand or two-way spraying. High-pressure, abrasive- and corrosive-resistant, 13 or 20 GPM piston pump. Easy-to-reach positive controls.

MYERS



Semi-Concentrate and Dilute Sprayer: 45,000 cubic feet of air per minute, 90 MPH. High-head, high-capacity, 120 GPM centrifugal pump. Right, left or two-side application. Remote control of spray discharge.

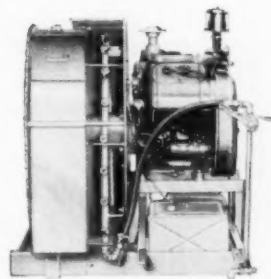
ORCHARD



All-Purpose Air Sprayer: 30,000 cubic feet of air per minute, 90 MPH. High-pressure, corrosive- and abrasive-resistant, 20 GPM piston pump. 36", seven-blade, high-strength cast-aluminum axial-flow fan moves more air with less power. Right, left and two-way spraying.

SPRAYERS

Blower Attachment: 30,000 cubic feet of air per minute, 90 MPH. 36", seven-blade, axial-flow aluminum fan. This unit converts any high-pressure sprayer to a one-man air-blast rig. One- or two-side delivery.



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It's not just the "price" of the bag:

Overall packaging cost should be considered when you choose a bag. It must enhance the quality of your product, provide superior protection, have good machineability, increase display value and offer lasting brand identification. VISQUEEN 'C' film gives you all these, plus many other exclusive advantages not found in other polyethylene films.

6 reasons why

VISQUEEN 'C' film means better packaging at lower cost to you!

1. **VISQUEEN** has superior strength—won't split, crack, shatter or run—cuts down package breakage.
2. **VISQUEEN** is more uniform—yields more units per pound of film—results in better machineability.
3. **VISQUEEN 'C'** is printable—unmatched for ink adhesion. Ink stays on—it won't come off.
4. **VISQUEEN** has body and stiffness—fabricates easily—keeps packaging lines operating at higher speeds.
5. **VISQUEEN** is economical to use—cuts packaging costs as much as 50%.
6. **VISQUEEN** is the only polyethylene film offering the benefits of research and technical experience of The VISKING Corporation.

Converters of VISQUEEN film are packaging experts who can help you with your packaging problems. For names of those serving your area, clip coupon, attach to your letterhead and mail.

Important! VISQUEEN film is all polyethylene, but not all polyethylene is VISQUEEN. Only VISQUEEN has the benefit of research and resources of The VISKING Corporation.

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Power Take-off on Mower Furnishes

POWER FOR PRUNING

A SMALL power pruning outfit has been built by F. C. Baker, Troy, Kans., using the power take-off from his Gravely orchard power mower. In this way, says Baker, the mower works for him even when there's snow on the ground!

Baker bought two Gravely accessories to make his pruning outfit: a rear hitch frame and power take-off. (Gravely Tractor Co., Dunbar, W. Va.) Since his operation is fairly small, he bought only one power pruner (Model 500, made by The Henry Co., Hamden, Conn.), and a Quincy air compressor in the smallest size available. (Quincy Compressor Co., Quincy, Ill.) If two pruners are used, Baker suggests a larger compressor. The Gravely will furnish power to run two pruners, he says,



Baker's "converted" Gravely orchard mower, ready for power pruning job.

"with some horsepower to spare." For storing the air, he bought a "watermelon tank" from a near-by war surplus store.

In his farm shop, Baker made three parts from strap iron: a fork to hold the caster wheel, a bracket to support the compressor above the power take-off, and supports for the air storage tank. Any grower with a forge or welding outfit and metal drilling equipment can easily make these items.

Costs in addition to the Gravely equipment and the power pruner were as follows:

Quincy compressor (unloader attached).....	\$30.00
Air storage tank	\$7.00 to 10.00
Copper tubing and connections	5.00
Eight-inch rubber tire	2.50
V-belt	1.50
Pulley	2.00
Pressure gauge	1.50
Safety valve	1.50
TOTAL	\$54.00

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mention **AMERICAN FRUIT GROWER**.

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**PLUM CURCULIO AND
CATFACING INSECTS WITH
LONGER LASTING AND
MORE EFFECTIVE**

dieldrin

Every year thousands of bushels of fruit are downgraded or completely ruined by plum curculio and "catfacing" insects. But growers using *dieldrin* are getting effective control of these insect pests—getting better quality fruit at harvest.

Dieldrin has proved to be a most dependable control for plum curculio because of its efficiency and its long residual action. Dieldrin is recognized as the standard insecticide for plum curculio control in

many of the important fruit growing areas.

Apply dieldrin sprays during the pre-bloom or postbloom periods according to recommendations of state authorities.

Now you can eliminate downgrading and culls—build up bigger profits at harvest. Control plum curculio and "catfacing" insects this season with powerful economical dieldrin. Dieldrin is available under well-known brand names from your insecticide dealer.

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for your orchard's protection!



AIRMASTER '420'
42" axial flow fan
500 gallon tank



AIRMASTER '360' (three models)
36" axial flow fan
500 gallon tank
40 or 28 gpm high pressure pump or
120 gpm centrifugal pump



AIRMASTER '360' (two models)
36" axial flow fan
400 gallon tank
40 or 28 gpm
high pressure pump



AIRMASTER '320' (two models)
32" axial flow fan
300 gallon tank
20 gpm high pressure pump or
50 gpm low pressure pump



AIRMATE '360' (four models)
36" axial flow fan
25 gpm pump & 300 gallon tank
25 gpm pump & 400 gallon tank
35 gpm pump & 300 gallon tank
35 gpm pump & 400 gallon tank



AIRMATE MA 36
Blower Attachment
36" axial flow fan

13 MODELS IN ALL TO CHOOSE FROM!



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Canadian Distributor
LEE Equipment Company, Ltd.
Stoney Creek, Ontario

Depend on FRIEND for the best in air spraying equipment.

The Airline with its traditional FRIEND dependability and advanced engineering is the best protection against pest and blight damage your fruit trees can get.

There's the big, big AIRMASTER '420' that delivers over 70,000 cubic feet of air per minute; the '360' that delivers over 45,000 cfm.; the '320' that delivers over 28,000 cfm.; and the AIRMATE '360' and the AIRMATE Blower Attachment that deliver over 32,000 cubic feet of air a minute. In all, there are thirteen models with the air volume and air power to give your tallest and thickest trees really thorough coverage.

There's a FRIEND air sprayer here to fit your needs exactly. Drop in on your FRIEND-ly dealer and have him show you how FRIEND airpower can make '56 the best year your orchard ever had. He'll be glad to see you.

Or, if you wish, write today...

THE QUESTION BOX

Don't be perplexed! Send us your questions—no matter how big or small. A three-cent stamp will bring you an early reply. Address: The Question Box, AMERICAN FRUIT GROWER, Willoughby, Ohio.

GROWTH REGULATORS ON BERRIES

What yield increases can be expected from the use of growth regulator sprays on berries?—Indiana.

Best results have occurred on cane berries, particularly in Oregon. In commercial practice growers are obtaining a 20 per cent increase in tonnage. Sprays on red raspberries have not done so well. Experimental results in commercial black raspberry plantings have shown a 15 to 25 per cent increase in fruit size.

On strawberries, results are inconclusive. On the West Coast, up to 50 per cent has been reported from time to time, but not with certainty on all occasions. Similarly, in Michigan, some applications have increased yields by 25 to 35 per cent whereas at other times no response has been secured. Apparently there is still much experimental work to be done in this field.

HYDROCOOLING PEACHES

Hydrocooling peaches requires a considerable investment. Does this mean that the small grower will go out of business?—Georgia.

Small growers who cannot afford hydrocooling equipment can use the facilities of custom packers which are growing in size and number, particularly in southern areas. The North Carolina State College at State College Station, Raleigh, has studied the effect of hydrocooling on the large and small peach grower and has issued a booklet on the subject. We happen to have an extra copy and are sending it to you under separate cover.

DABNEY PEAR

What can you tell me about the Dabney pear?—South Carolina

The Dabney is moderately resistant to fire blight. The crop is picked in late July and early August in Tennessee, and ripens rapidly in summer temperatures unless refrigerated. It is sweet-subacid in flavor and its very good quality has attracted attention as a dessert fruit. Dabney resembles Bartlett in color and shape.

PECAN QUESTION

I have one acre of Mississippi Giant Mahan pecan trees. The tops were killed after a late hard freeze in the spring after the trees had almost leafed. All that were killed have sprouted about even with the graft. I have trimmed and cared for one choice sprout on each tree. Is it possible for these sprouts to grow into strong, heavy bearing trees of large pecans, or should they be reset, or could buds be grafted in the tops?—Tennessee.

If the sprouts have originated above the graft, they will be of the Mahan variety. If the sprouts are below the graft, then it will be necessary to graft or bud the shoots. Through the courtesy of Dr. Frank Cross of the Oklahoma Agricultural College, we are sending our reader Farmers' Bulletin No. 1501 entitled "Nut-tree Propagation," which can be obtained by sending 25 cents in coin to the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.

Also, it should be pointed out that the Mahan pecan variety is not well adapted to the reader's location. The Mahan requires a long growing season for maturity and does not do well too far north.

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Malathion belongs in every spray schedule because it is the *only* phosphate insecticide offering superior insect control *plus* a wide margin of safety in handling.

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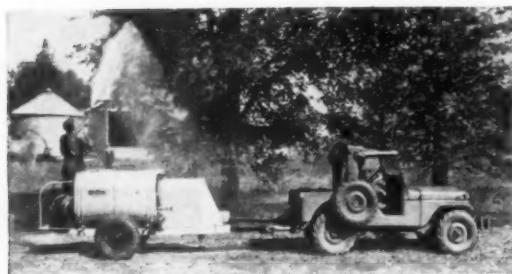
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Transportation. Whether used to transport men and equipment or to carry fruit or fertilizer, the extra traction of the 'Jeep's' 4-wheel drive takes you to all corners of your orchard or grove, under the most difficult terrain or weather conditions.

'Jeep' versatility and all-wheel traction save time and manpower in the orchard !



Spraying or dusting. With power take-off, the 'Jeep' operates almost any kind of spraying or dusting equipment, including the 200-gallon trailer-mounted spray unit above. Spraying equipment detaches easily, frees the 'Jeep' for many other jobs.



Fencing. The 'Jeep' post hole digger mobile unit gets to the job fast and digs up to one post hole a minute. The 'Jeep', with hydraulic lift, operates most three-point-hitch implements, does an almost endless variety of jobs in orchard or grove.

Fruit growers everywhere find that the rugged versatility of the 'Jeep' keeps it always on-the-move, every day of the year, transporting men and equipment, supplying mobile power, hauling or towing and doing other jobs that keep work moving on schedule.

The extra traction of the Universal 'Jeep's' 4-wheel drive takes it anywhere in the orchard—over soft or slippery hills, rough terrain and up steep grades, in good weather or bad. Its "go-anywhere" ability, short turning radius and low silhouette speed orchard work, let you maneuver easily between and under trees. And, its low center of gravity and all-wheel traction provide greater safety on slopes and hillsides. On the highway, the 'Jeep' travels in conventional 2-wheel drive at top legal speeds.

Your Willys dealer will be glad to demonstrate the versatile, all-purpose Universal 'Jeep' on your farm without obligation. Just phone him or drop in to tell him when to come out.

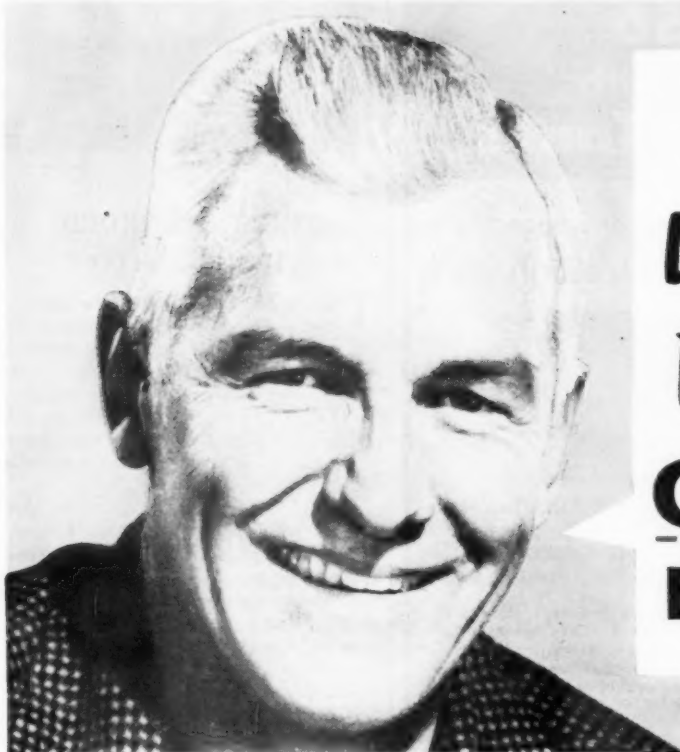
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*Model CJ-5 shown

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AMAZING "ONE-SHOT" MITICIDE

For Early Season Mite Control

Here's what you've been looking for—an early season mite spray so efficient it gives control far into summer with a single application . . . one that's effective on apples, peaches, pears, plums and prunes . . . reduces the number of mid-summer sprays needed, thereby lessening the problem of residue on fruit.

Some Outstanding Advantages of GENITE EM-923

- Gives outstanding control of European red mite and clover (almond) mite with single application.
- Superior control before fruit formation reduces residue problem of late season sprays.
- So effective, control results often extend into the following year.
- Will not harm useful insects, virtually non-toxic to bees.



Orchard Brand GENITE EM-923 does all these things and more. Plan ahead for bigger orchard profits by using it this year. A product of General Chemical research, Genite EM-923 has been tested and proved at Experimental Station orchards in 28 states and three Canadian provinces, and used by California commercial growers for years.

A Little Goes Far! Just 1½ pints make 100 gallons of full-strength solution. Recommended use is any time from dormant spray to petal-fall spray. Compatible with most pre-fruit-formation spray materials. No separate miticide spraying generally necessary.

Be sure of a supply when you need it . . . order from your Orchard Brand dealer now.

*Reg. Trade-mark



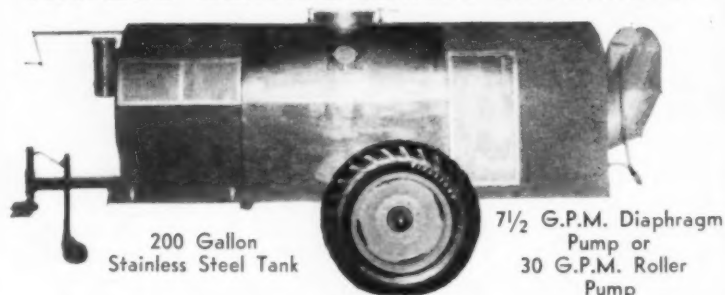
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New for '56 two new models with Stainless Steel Tanks

For Spraying Dilute, Semi-Concentrates or Concentrates
The 200 Gallon Stainless Streamliner

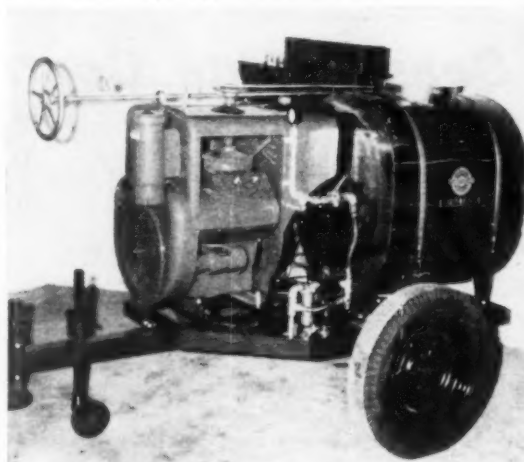


200 Gallon
Stainless Steel Tank

7 1/2 G.P.M. Diaphragm
Pump or
30 G.P.M. Roller
Pump

The new "Stainless Steel Streamliner" with a 200 gallon stainless steel tank will give years of trouble free service at LOW initial cost. "ONE MAN OPERATION", light in weight (Less than 2000 lbs.). This combination dilute, semi-concentrate and concentrate sprayer is acclaimed as the outstanding sprayer of 1956. Other features include dual purpose for both orchards and row crops, adjustable axle as to height and width, and a choice of two special pumps for either dilute or high concentrate application.

The 100 Gallon Combination Buffalo Turbine Sprayer and Duster



Light enough to be
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SMALLEST TRACTOR
OR
A "JEEP"

Large enough for the big grower and small enough for the small grower. The "Buffalo Turbine" combination Sprayer and Duster comes with a stainless steel 100 gallon tank, skid or trailer mounted. Designed for orchard or row crop spraying or dusting.

SPRAYS dilute, semi-concentrates or concentrate mixtures
DUSTS micronized chemicals, regular dusts or pellet baits
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Tukey Magness Snyder

THREE AWARDED WILDER MEDALS

THE annual meeting of the American Pomological Society was held in conjunction with the centennial meeting of the New York State Horticultural Society at Rochester.

The society made its annual award of Wilder Medals to those who have done the most to help fruit progress during the year.

Dr. H. B. Tukey, head of the department of horticulture at Michigan State University since 1945 and associate editor of *AMERICAN FRUIT GROWER*, received the Wilder Medal for his leadership in horticulture, his research with rootstocks, and the fundamental work he has done in research with plant growth regulators.

A Wilder Medal was also awarded to Dr. John R. Magness, head of the Fruit and Nut Crops Research section of the USDA at Beltsville, Md. Dr. Magness was awarded the medal in recognition of his ability as a research horticulturist and for the work he had done on fruit physiology and in directing horticultural research.

A third Wilder Medal was awarded to Elmer Snyder for his outstanding research with grapes.

Snyder recently retired after devoting 40 years to the study of grapes at the U. S. Horticultural Field Station, Fresno, Calif. He has developed several outstanding grape varieties for the Southwest, including Black-rose, Cardinal, and Calmeria. In addition, he has contributed much to the control of Phylloxera disease and nematodes by the use of selected resistant rootstocks.

A NEW USE FOR APPLE JUICE

A DELICIOUS new use for juice-grade apples has been perfected by the University of Illinois horticulture department. It's apple sherbet—and 77 per cent of the folks who tasted samples at the 1955 Farm and Home Week said it was better than sherbets now available on the market; 32 per cent rated it equal; only one per cent thought it inferior.

The new product contains 55 to 60 per cent of pure apple juice, and lends itself well to a continuous freeze process. Following is a recipe worked out by the food technology department to produce 7½ pounds of mix. Quantities may be altered, if approximate proportions are maintained.

APPLE SHERBET

14 lbs. sugar	7 lbs. 12% ice cream mix
4 lbs. sweetose	175 cc. citric acid (45% solution)
42 lbs. apple juice	Vegetable coloring
.02 lb. servet	
.02 lb. gelatin	
9 lbs. water	

Get scab before it gets you or stop it after it strikes

Used as a preventative, Stauffer's CAPTAN 50-W will stop scab before it starts.

Used after scab is first observed on leaves, it will prevent secondary infection, correct the first attack and preserve the leaves in full vigor for nourishment of tree and fruit.

Stauffer's CAPTAN is also making remarkable records for size, color and finish of apples. It is particularly valuable on Golden Delicious and other yellow varieties prone to russetting when treated with other fungicides.

Finally, CAPTAN will stimulate next year's bud formation and has been observed to have a beneficial effect on "off-year" crops.

... and Watch for Powdery Mildew!

A recent sharp increase in this pest is dangerous to many varieties of apples. Cause: elimination of sulfur sprays in recent years. For prevention: use Stauffer's CAPTAN 50-W with Magnetic "70" Sulfur Paste through "pink" ... straight Captan 50-W subsequently. For eradication: Captan 50-W with Magnetic "70" through petal-fall ... then microfine and 325-mesh sulfurs for subsequent cover sprays.

*Request a Stauffer bulletin
on Powdery Mildew control.*



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Apples

"Excellent scab control"

—New Hampshire.

Grower Ralph Amsden reports: "We are interested in a fungicide that gives us a clean as well as a beautifully finished crop. We have mixed varieties, McIntosh, Delicious and Baldwin apples interplanted in our 200 acre orchard. ORTHOCIDE in a concentrated program this year gave us excellent scab control and superior finish over two other test blocks in the same orchard." Shown are Mr. Amsden, left, and James W. Elton, of The Elton Orchards, Stratham, N.H.

These alert growers prove nothing matches **ORTHOCIDE** (captan) for effective disease control

Case histories show how a complete ORTHO program brings top quality crops, greater profits.

You can't argue with success! And here are just three of hundreds of cases where ORTHOCIDE (captan) definitely upped crop quality and, *as must always follow*, just as definitely upped each grower's profit.

A fungicide with a record of disease control like this is not an expense. It's an investment!

Get extra dividends with ORTHOCIDE (captan) in a complete ORTHO program.

Only ORTHOCIDE, a top quality formulation of the chemical, captan, provides: 1) Exceptionally fine particle size. 2) Better sticking, wetting and spreading agents. 3) Superior carrying agents. 4) Compatibility with the full ORTHO line of insect and disease control products.

Peaches

"Fine all-around color"

—Illinois.

Frank Rosson, right, shows some of his prize Elberta peaches to Mathew Zilinskas, ORTHO Fieldman. Rosson changed from sulfur sprays to a full ORTHO program featuring ORTHOCIDE (captan) in 1954 on his 125 acres of Elberta peaches. Result: far richer green foliage earlier in the season. And his peaches had a fine all-around color, were firmer and more uniform. Mr. Rosson is convinced the ORTHOCIDE spray from beginning to end of season is the best program he could use on his fruit. *Makanda, Illinois.*



Strawberries

"Very little loss from rot"

—New York.

"We are very satisfied with the ORTHOCIDE program on our 40 acres of strawberries, which yielded 235,000 quarts of finished fruit. We had very little loss from rot. At the peak of harvest we stored berries we couldn't process in coolers. When they were taken out they showed very little signs of mold as compared with berries not treated with ORTHOCIDE. In fact, we had such good results with ORTHOCIDE that we used it on 40 acres of tomatoes, too." Picture shows Frank Notaro, right, and his farm manager, Thomas P. Mecca, inspecting ORTHOCIDE-treated strawberries. *North Collins, New York.*



For best results ORTHOCIDE should be used in a complete ORTHO spray program as recommended by our research and our ORTHO Fieldman.

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FROM CHERRY LEAF SPOT FUNGUS
THROUGHOUT THE HARVEST SEASON



WITH PROVED,
EFFECTIVE

Actispray

SOLUBLE ANTIBIOTIC TABLETS

Actispray provides freedom from cherry leaf spot in both sweet and sour cherry trees. Used before or after harvest, applications are effective against all established leaf spot infection. Because it may be applied up to 4 days before harvest, Actispray also provides protection during the harvesting period.

Rapid, effective action • Within one hour following application, Actispray should destroy all contacted leafspot infections.



Easy to use • Add readily-soluble Actispray antibiotic tablets directly to the tank with agitator running.

Economical • One tablet to 100 gallons of water gives a 1 ppm. solution sufficient to treat 25 trees.

Actispray is also recommended for non-bearing trees, nursery stock, and transplanted trees one-to-two years old.

Actispray antibiotic tablets are supplied in convenient glass tubes, 24 tablets to a package.

Actispray is a product of The Upjohn Company and is distributed by
The Upjohn Company, Chemical Sales Division
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Food Machinery and Chemical Corporation, Middleport, New York



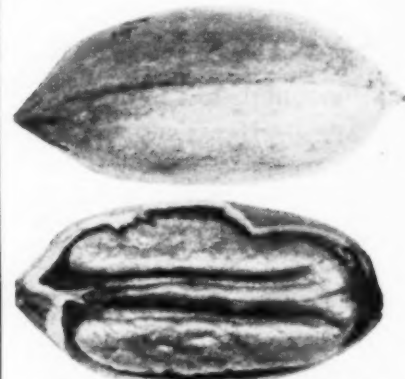
A NEW PECAN for the North

Starking Hardy Giant expected to extend commercial area

THE pecan, traditional nut of the South, crossed the Mason-Dixon line with the recent introduction of a top quality, hardy, thin-shelled pecan for the North. Called "Starking Hardy Giant," the new nut introduced by Stark Bro's Nurseries, Louisiana, Mo., is expected to extend the range where pecans can be grown commercially.

The key to its future potential in northern areas is its short growing season. Says Paul Stark, Jr., "It looks like it will mature most seasons, even in Iowa and probably in upstate New York."

"It takes only 140 to 150 days of growing season to get this nut through to maturity, so it will mature in most of the areas where Delicious apples can be grown. It is estimated



Starking Hardy Giant is new, paper-shelled variety with large, well-filled nuts. Can be grown in most areas where Delicious apples are grown.

in the Pacific Northwest that it takes 140 to 145 days to mature Delicious apples, and that is just about what the Starking Hardy Giant pecan will need.

"Down in the Far South it matures in August, well ahead of any regular paper-shell variety, and will extend the cracking and harvest season for nuts in that area to a considerable degree."

The original tree was discovered on the farm of George James, Brunswick, Mo. The size of the individual nut is large, with well-developed kernels and a high oil content. Like all paper-shelled varieties, it will command a premium price. Flavor is rich and sweet, and quality is high. Trees are self-fertile, so can be planted in solid blocks.

THE END.

AMERICAN FRUIT GROWER

It's usable horsepower that counts!



Many passenger car type truck engines have to strain at the job of developing power to haul normal loads, cost big money in wear and repair. INTERNATIONAL all-truck engines deliver high usable horsepower at normal road speeds, for peak performance, long life, BIG money savings—the operating and upkeep money.

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Rated horsepower figures don't tell the whole story of truck performance.

Wise truck buyers want to know *more* than rated horsepower. They want to know what actual *usable* horsepower they are going to get to pull capacity loads at normal, legal speeds—without undue engine strain.

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In the world's most complete truck line, there are trucks for every farm job. Pickups. Stakes. Platforms. Combination grain and stock rack models. Every other truck type, including light-duty S-120(4x4) four-wheel-drive that will go anywhere on your farm or on the highway, gives you auxiliary power for a host of farm jobs.

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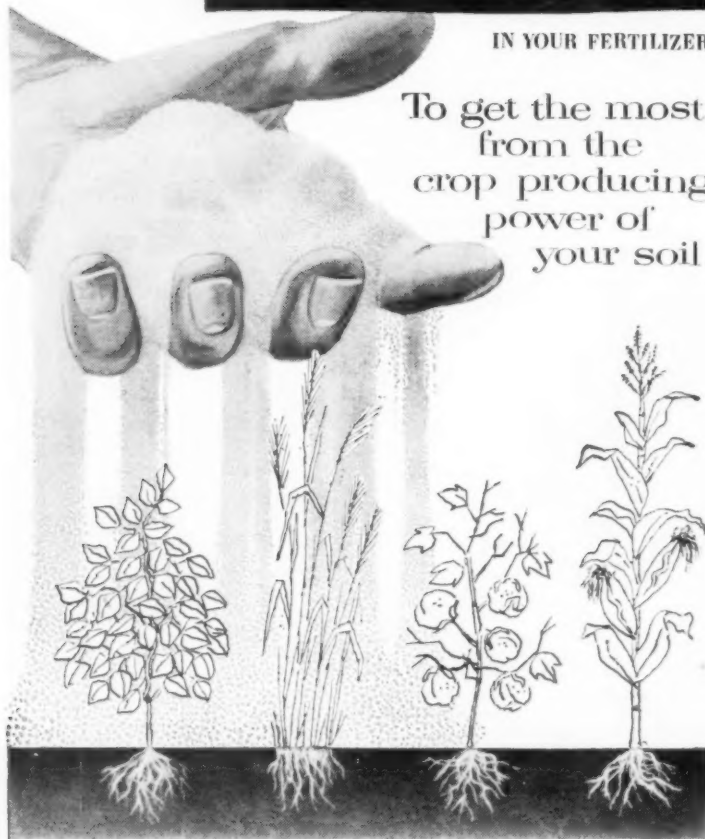
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The fertility level of your soil is your most valuable asset. Unless you conserve or maintain it by returning enough Potash . . . poor yields, poor crops and poor profits are sure to follow. To protect this all-important crop-producing power of your soil, make sure you supply enough Potash in your fertilizer. Your local agricultural adviser will help determine correct amounts for your soil. And remember, a low Potash level means a low income level. Make sure you insist on enough Potash.

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WINDFALLS



By HENRY BAILEY STEVENS

An Apple Man to an Orange Tree HERE is a beautiful tribute to the beauty of the orange tree paid by that veteran grower of apples, E. Stuart Hubbard of Poughkeepsie, N. Y. It is quoted from his *Memories of Florida*, an unpublished manuscript, written for the benefit of his children and personal friends:

"The orange tree is one of nature's loveliest. At bloom time its deep green, glossy foliage is brightened by the pale green of tender growth; clusters of snow-white starry petals enriched with yellow stamens, give promise of fruit to come, while golden globes of luscious, thirst-quenching fruit, cooled by nature's means, gladden the eye. No wonder everyone who experiences such loveliness craves to own and live within an orange grove."

Nuts Versus Meat THE discussion of Nuts Versus Meat which we dared you to join last month promises to be a hot one. You know our bias, but we must play fair. For as long as the battle rages, we propose to split the Windfall prize award—a five-spot for the best monthly letter on the Tree Food side and an equal dispensation to the best letter on the meat side.

Ballyhoo Is Not Enough FIRST for Tree Food is Roger L. Austin, president of Austmore Farms, East Jordan, Mich.:

"Your *Why not Win this Game?* in the November issue makes the problem of adequately marketing tree food sound quite simple. It seems to indicate that a close-knit organization with plenty of ballyhoo would do the trick. I heartily agree in all this, in that it will have to be done if this industry ever reaches the stature it deserves. However, my reasoning tells me that first on the agenda is to produce a product that is all it should be in nutritional value. Deficiency diseases are snowballing at an alarming rate in this supposedly best-fed nation.

"At the same time we have artificially built up a food reserve, some

AMERICAN FRUIT GROWER

of which isn't even fit to eat. To me it's a sorry mess: artificially stimulated overproduction, artificially maintained high retail price levels, and still the nation's largest industry virtually dying on the vine.

"Naturally this problem can only be dealt with through organization, but the illness goes much deeper and can only be cured by a complete reversal of our present policies. Making two blades of grass grow instead of one is not the answer. It cannot be done very long with commercial fertilizer alone and still have a fit product. It doesn't seem to make any difference how many apples are displayed or how nice they look. It's the repeat sales that count from buyers who like them so well that they eat about a dozen a day."

Advice to New Englanders

JOHN W. HER-SHEY, of Downingtown, Pa., takes pity on us losing our shirt in last year's McIntosh avalanche.

"As I looked over the good November number of AMERICAN FRUIT GROWER while I sipped my morning coffee, I pondered your marketing problem in New England. May I suggest that you Yankees expand your farming program? We sell \$2,500 to \$3,000 worth of beef a year, \$400 worth of asparagus off an acre, nearly \$400 worth of raspberries off 1,000 plants. Chickens too take their place in rounding out the artificial program of nature, which we've indented so we can sit in on the cycle. We kill the boarders, freezing and selling for 55 cents a pound. Some roosters yield over \$4 apiece. Let run, my farmer says, they eat just half the feed they would if penned. And the bugs they eat we just don't spray for.

"We set our trees far enough apart so we can farm in between, keep the ground clean, and discourage mice. Where sod is, we turn the cattle in for fall pasture after the leaves fall. A couple of family cows with steers do no damage or very little at this time. Last year they broke off two little trees and the good wife complained. I told her there wasn't cheaper pasture anywhere in the county than \$5 worth of tree.

"The next problem America needs to solve is marketing. Just stop and figure how much the synthetic flavors have displaced fruit in bushels. Sure, it hurts to spend a lot of money on selling. But better that than nothing."

Address your "Windfalls" contributions to Henry Bailey Stevens, AMERICAN FRUIT GROWER, Willoughby, Ohio.

MARCH, 1956

best yet!

CARDOX AQUA-JET for '56 SPRAYERS



Cardox Aqua-Jet Sprayer, Model 115, equipped with 2 external fuel tanks, second tank optional at extra cost.

Dollar for dollar you get more, in a CARDOX Aqua-Jet than in any other sprayer being made today. It goes right back to the way they are engineered, from the wheels up! Now, for '56 CARDOX Aqua-Jets offer more advantages than ever... with new features, new improvements for even higher performance and longer service life... and a capacity range for every orchard spraying job. Before you buy any sprayer check CARDOX Aqua-Jets for:

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They put uniformly mixed spray material where you want it—in the pattern and quantity you want—with least waste. Fast operation cuts spraying time and costs.

LOW MAINTENANCE

Simple, clean design, with every part specially engineered or selected to hold maintenance to a minimum, cuts your operating cost. *Original cost is low, too!*

CLEAN CROPS

Whatever sprayer you buy, you expect it to pay off in better fruit. CARDOX Aqua-Jets "deliver"—ask any CARDOX owner!

**The Unique CARDOX 3-Way Combination
FOR BETTER SPRAYING**

AQUA-JET HEADS Fully Patented

Impinging jets give maximum dispersion, augmented by the specially engineered CARDOX Centrifugal Blower for most effective reach and coverage

Plus Mechanical Agitation for thorough mixing

Plus High Pressure Pump—the powerful "punch" for efficient projection

**ALL THIS and a score of Important New Features for '56
TO MAKE AQUA-JET THE BEST YET!**

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Wade Rain's controlled moisture . . . the right amount of water at the right time . . . upgrades the quality of your fruit . . . increases quantity. With Wade Rain, you have all that's best in Sprinkler Irrigation — the features that make lateral moving fastest and easiest.

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2. Encourages better root structure for healthier trees.
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A SECOND CENTURY Look at MARKETING

New York growers at society's 101st meeting
get low-down and know-how on marketing fruit

By R. T. MEISTER

Editor

THE 101st or "Second Century" meeting of the New York State Horticultural Society held at Rochester in January set a new standard for fruit meetings.

It was by far the best fruit show of the decade, if not the century. There was plenty of room at the new Rochester Community War Memorial auditorium where 87 companies exhibited their wares to growers. Probably nowhere else has there been assembled in one spot such a complete display of equipment needed to grow and sell fruit.

Talks and discussions on overcoming the disadvantages under which growers market their fruit held the spotlight at the meeting. It was brought out that efforts to change the present system in which the grower is at the mercy of the buyer has led to some fundamental developments in the marketing picture in western New York.

G. A. Day, head of the processing



Photo courtesy Rochester Democrat & Chronicle

Secretary of Agriculture Ezra Taft Benson gets "tagged" immediately upon arrival at the 101st "Second Century" meeting of the New York State Horticultural Society. Pinning on the name badge is outgoing president Willis A. Phillips, of Burt.

Speaking before several thousand New York growers, Benson blamed rigid support prices and the accumulation of huge surpluses for driving farm prices down. He expressed his conviction that agriculture must be left free of government controls to prosper and grow. Farmers are the moral backbone of this country, he said with evident feeling, and to put them under the yoke and supervision of the government would destroy the heritage which has made America a great power in the world.



Caught eating a York State apple pie — and enjoying every bite — is Virginia's senator and apple grower Harry Byrd.

Photo courtesy Rochester Democrat & Chronicle

Senator Byrd, who has completed 50 years as an apple grower, told growers at the anniversary banquet that the most serious problem confronting American growers is overproduction. The most the apple market seems able to take is about 100 million bushels, he said. With about 20 million bearing apple trees in the country, this is an average of about 5 bushels per tree. If yields increase to as little as 7 bushels per tree, a potential crop of 140 million bushels is possible.

have already met and the possibility of a central sales organization to handle all the processed goods is in the making.

Looking to the future, he said there is a possibility of a working agreement to the benefit of all between New York and Appalachian growers. He reported that the need for study on fresh fruit marketing is great. Packing plants to handle large volumes of fresh fruit are as important as processing facilities, and it is hoped that some progress along this line can be made before the 1956 harvest, Day said.

James E. Klahre, of the Apple Growers Co-operative at Hood River, Ore., told New York growers about co-operative fruit marketing and grower experience with it in Oregon.

He said that there are many regional and local apple marketing situations that could be improved if U. S. growers did something about marketing methods. He spoke of the intense competition in the food industry and said that the apple mar-

committee of the Western New York Apple Growers Association, said there are four grower-owned processing plants now operating or scheduled to begin operations this year. They are capable of processing close to 2 million bushels of apples and probably 5,000 tons of cherries. Committees from each co-operative

keting problem is not simply one of creating demand through advertising, but also providing the means of exploiting the demand that advertising creates.

Over 50 per cent of the Northwest apple crop is packed and marketed by local or regional marketing co-operatives, he said. The benefits to growers arise in part from the pooling of the fruit, which minimizes marketing risks, creates a sufficient volume of standardized fruit under one brand, and carries the overhead necessary for a comprehensive marketing program. Through quality control, market planning, advertising and sales promotion, and orderly marketing and distribution, his association capitalizes on the sales possibilities in today's competitive markets.

Co-op Action Pays

As an example of successful co-operative action by grape growers, Hall Clothier, of Silver Creek, N. Y., told how the National Grape Co-operative Association is solving the problem of the spread between what the consumer pays and what the farmer receives. He said that he felt the problem is not how to reduce this spread but how to get part of it for the farmer.

In March, 1945, a group of grape growers organized the National Grape Co-operative Association for the purpose of purchasing a plant at Brocton, N. Y., owned by the National Grape Corporation.

In 1952 an arrangement was made whereby the National Grape Co-operative (membership: 5,000) could acquire the Welch Grape Juice Company out of the proceeds of Welch sales, at the same time receiving a fair cash price for their grapes. The arrangement provided that members of the co-operative would receive for their grapes the price at which Welch sold its finished products to its customers, less its expense of doing business, and 10 per cent of net sales to be set aside to pay for the plants and equipment and then to pay for net current assets and other debts.

To date over \$13 million has been accumulated out of four annual crops, leaving less than \$200,000 necessary to enable growers to exercise their option to purchase the business. He reported that for the first time in history a group of farmers will take over an established, successful, national business to be operated for the benefit of grape growers across the United States. The finest relationship has existed between growers and the Welch Company to make these arrangements possible. THE END.

40-GAL SPEED SPRAYER 30-GAL SPEED SPRAYER 20-GAL SPEED SPRAYER 10-GAL SPEED SPRAYER 5-GAL SPEED SPRAYER 3-GAL SPEED SPRAYER 2-GAL SPEED SPRAYER 1-GAL SPEED SPRAYER 1/2-GAL SPEED SPRAYER 1/4-GAL SPEED SPRAYER 1/8-GAL SPEED SPRAYER 1/16-GAL SPEED SPRAYER 1/32-GAL SPEED SPRAYER 1/64-GAL SPEED SPRAYER 1/128-GAL SPEED SPRAYER 1/256-GAL SPEED SPRAYER 1/512-GAL SPEED SPRAYER 1/1024-GAL SPEED SPRAYER 1/2048-GAL SPEED SPRAYER 1/4096-GAL SPEED SPRAYER 1/8192-GAL SPEED SPRAYER 1/16384-GAL SPEED SPRAYER 1/32768-GAL SPEED SPRAYER 1/65536-GAL SPEED SPRAYER 1/131072-GAL SPEED SPRAYER 1/262144-GAL SPEED SPRAYER 1/524288-GAL SPEED SPRAYER 1/1048576-GAL SPEED SPRAYER 1/2097152-GAL SPEED SPRAYER 1/4194304-GAL SPEED SPRAYER 1/8388608-GAL SPEED SPRAYER 1/16777216-GAL SPEED SPRAYER 1/33554432-GAL SPEED SPRAYER 1/67108864-GAL SPEED SPRAYER 1/134217728-GAL SPEED SPRAYER 1/268435456-GAL SPEED SPRAYER 1/536870912-GAL SPEED SPRAYER 1/1073741824-GAL SPEED SPRAYER 1/2147483648-GAL SPEED SPRAYER 1/4294967296-GAL 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Here are 5 ways you profit!

- 1. Wide-range protection:** "Fermate" controls both scab and rusts, plus more minor diseases than any other fungicide.
- 2. Low original cost:** The low price of "Fermate" means less money in the tank.
- 3. Lower cost per bushel:** More apples with "Fermate" means lower cost of production.
- 4. Fine finish of red varieties:** "Fermate" does not contribute to sun scald or russet of red varieties.
- 5. Maintain orchard vigor:** "Fermate" keeps leaves deep green. Good foliage makes big yields.

FOR PEACH LEAF CURL . . . Both experiment stations and growers have found "Fermate" a more highly effective, yet inexpensive dormant spray.



FERMATE®
FUNGICIDE

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



Frank Street, Henderson, Ky., shows Redskin peach tree trained by his two-branch system. Street has 3,000 three-year-old trees pruned by system which gives strong, wide-angled crotches.

New Angles in PEACH Pruning

Two successful growers tell how they train young trees to produce profitably to a ripe old age

IF a peach tree is trained properly in its first two years and pruned properly thereafter, it will produce profitable crops over a long period of years.

Frank Street, who grows 150 acres of peaches near Henderson, Ky., trains his peach trees to a two or three leader system the year they are planted. He wants these main scaffold limbs to come out close together and spread away from the main trunk at a wide angle. Wide-angle crotches, he has found, let trees live much longer than those with narrow-angle crotches. Less winter injury, insect damage, and limb breakage occur with wide-angled scaffolds.

Early Training

Street likes to plant a 3- to 4-foot June budded tree in the spring. Trees are not headed back at planting. After tree growth starts, he selects the two or three buds or shoots that are close together and look like potentially strong, wide-angled crotches.

All branches above these he cuts back but does not remove. Heading back of these branches goes on throughout the first summer, while the two or three main scaffolds selected grow to their maximum, developing wide angles the first season. Were the branches above the scaffold removed, the selected scaffolds

AMERICAN FRUIT GROWER

would grow straight up, forming narrow angles.

Before the second growing season the entire top of the tree is cut out above the three selected scaffold branches. Branches below are removed too so that all the second season's growth goes into the scaffolds, which by then are wide-angled and well-formed. Only light pruning is necessary during the second and third years to maintain the shape of the tree and to keep the crotches free of new growth.

For the next three or four years Street does no pruning. Trees grow rapidly and come into production early with heavy crops. In the sixth or seventh year after planting he starts pruning again, now to maintain vigorous new growth for heavy annual production.

Pruning Established Trees

From then on pruning is essential each year to maintain trees of good size with lots of fruiting wood. He reaches up with his pruning shears and snips off a branch. This will be his renewal point. The following year three or four branches will develop here. He removes all but one.

The next year, after fruiting, he cuts this one back to the original renewal point, or establishes another near it. In this way he maintains the size of tree he wishes. As the trees get older, more severe pruning is done to maintain tree size and vigor.

Time will tell how long Street's system of pruning can be carried on. With the basic framework strongly established, he feels the life of a peach orchard is indefinite, maybe 30 years or more.

Another Training Method

In Michigan, William Teichman follows a somewhat different method



Peach tree in Michigan orchard of William Teichman was leaned away from prevailing wind when planted. The second season two branches were left on side of trunk toward prevailing wind. Strong, wide-angled crotches develop this way.

MARCH, 1956

Curculio and Codling Moth

kill BOTH apple pests
with ONE insecticide

Du Pont Marlate® 50

Methoxychlor Insecticide

Apples get double protection from one insecticide when you spray "Marlate" 50. It stops curculio damage—early or late. And, when cool weather delays emergence, "Marlate" 50 controls late curculio as well as codling moth that may be active at the same time. The long-lasting residue from "Marlate" holds against curculio and codling moth from one spray to the next.

Finer finish and more effective protection close to harvest are other extras you get with "Marlate." "Marlate" doesn't contribute to russetting—even on sensitive varieties. Use it to stop apple maggot, right up to 7 days before picking.

CHERRY GROWERS

"Marlate" 50 gives you top control of curculio and cherry fruit fly *plus* mild action on fruit and foliage. Put a block on a "Marlate" 50 program and see for yourself. On Montmorency, "Marlate" 50 helps increase yield by assuring better vegetative growth. Use it on English Morello to avoid dry stem.

On all chemicals always follow label instructions and warnings carefully.



MARLATE® 50

Methoxychlor Insecticide

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Timely answer to pest problems

DN-289 for aphids, cherry case bearer, pear psylla, bud moth,
certain scale insects, twig borer, red mite eggs



Right now is the time to plan to get your 1956 apple crop off to a healthy start. Spray your trees with *DN-289*[®], Dow's superior liquid NON-OIL preparation for dormant application. *DN-289* is also recommended for dormant use on pears, cherries, plums and pecans—but *not* on peaches.

DN-289 cuts spray costs, and controls more pests than any other single dormant spray material. Your Dow dealer will be glad to give you the latest recommendations for using *DN-289* and other reliable Dow orchard chemicals. THE DOW CHEMICAL COMPANY, Midland, Michigan.

DOW

AMERICAN FRUIT GROWER

PEACH PRUNING

(Continued from page 45)

of forming wide-angled crotches on young trees. (See "Building Strong Trees," by William Teichman, AMERICAN FRUIT GROWER, October, 1948, page 12.)

In planting a tree, he leans it away from the direction of the prevailing wind. The first year he selects a sturdy branch on the top side facing toward the prevailing wind direction, and removes all other branches. The top remains to form one scaffold, and the side leader forms the other.

A strong, wide-angled crotch develops between the two. Teichman never leaves more than three scaffold branches, and prefers just two on most peach trees. He has tried this method on cherry and apple trees also with considerable satisfaction.

At both the Kentucky Experiment Station at Princeton and at Frank Street's orchard, W. D. Armstrong has been conducting experiments to determine the effectiveness of various peach pruning methods on early bearing and total production per tree. His results to date substantiate the pruning system Street is following.

Trees left completely unpruned come into bearing first and trees with the least amount of pruning are next. Severely pruning trees during the pre-bearing years greatly reduced yields during early bearing years. The happy medium seems to be to prune for tree scaffold formation the first year, do little or no pruning until the tree is bearing well, then prune heavily to increase size of fruit.

THE END.

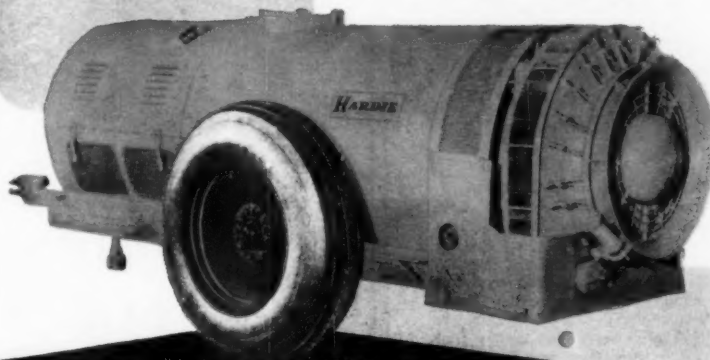


MAKE THIS BRUSH RAKE

A. N. Barney, fruit grower of Easton, Conn., made this offset brush rake from an old-fashioned hay dump rig. It works very well for windrowing brush from peaches and light prunings from apples. Mounted directly on the standard three-point tractor hitch, it is dumped with this same three-point hydraulic lift. Rake can be made wider by adding extra teeth from a second rig. —Arthur C. Bobb.

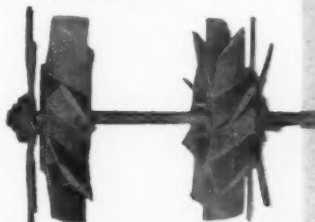
MARCH, 1956

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Tremendous air volume and velocity from two specially designed cast aluminum fans mounted with opposed blades on a single shaft in a fan housing of exclusive design.

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2, 26 in. fans, Ford V-8 Industrial Engine, 140 HP at 2600 RPM.

MODEL DF-26B.

2, 26 in. fans, Ford Industrial Engine, 108 HP at 2600 RPM.

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An attractive low price, 2, 24 in. fans, Willys Hurricane Engine, 70 HP at 4000 RPM.

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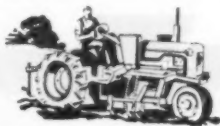
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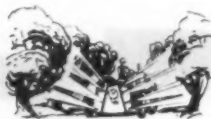
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Ideal for all growing crops. May be applied with fertilizer applicator on your tractor cultivator.



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Grace Urea Prills dissolve readily in water. Sprayed alone or combined with a pesticide, they give quick, yet long-lasting response.



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Three branches from the same Redhaven peach tree show the effects of different thinning sprays. Branch at left had NPA applied May 7, three days after full bloom, at 300 ppm; center branch had IPC applied June 1 at 300 ppm; check branch on right was unthinned. All were photographed July 13, 1955.

NEW THINNING SPRAYS FOR PEACHES

By **L. J. EDGERTON**

Cornell University

PEACH trees tend to blossom heavily and set more fruit than they can carry through the season to good size and proper maturity. The removal of some of these flowers or developing fruits by hand has been standard thinning practice by growers to obtain fruits of desirable size and quality.

Work has been in progress in many of the peach areas to develop thinning sprays that would eliminate most, if not all, of this hand thinning. The dinitro materials (DNs) have probably had the most extensive testing from this standpoint and some growers have been able to properly time their applications at full bloom to accomplish satisfactory results. The difficulty of applying the DN at the proper stage of bloom development, together with the occasional uncertainty about frost or fruit set as the flowers open, has limited the extensive adoption of this practice.

About 10 years ago naphthalene-acetic acid (NAA) was found to be effective in reducing fruit set of peaches when applied a month after bloom. Erratic thinning and occasional shoot and leaf injury have made growers cautious about attempting any general thinning with this hormone.

A carbamate material, 3-chloro-IPC, has received attention as a thinning spray for peaches during the past two or three seasons. Generally, the spray applications are made in the period 3 to 4 weeks after

bloom. Reduction in fruit set has been accomplished with these sprays, although varying results under different seasonal and orchard conditions have been reported and a few cases of fruit deformity have been observed. Its principal advantage over NAA is the lack of injury to leaf surface. Foliage and shoot growth have usually been good following applications of IPC.

Promising New Spray

Another thinning spray for peaches that has been tested during the past two years is naphthyl phthalamic acid (NPA). Orchard trials have shown that NPA will reduce set of peaches when applied at bloom or a few days later. Treatments made at this stage have been followed by excellent growth of shoots and foliage.

Where thorough coverage with pressure or air-blast sprayers is obtained, concentrations of around 100 to 150 parts per million (ppm) on Elberta and 250 to 300 ppm on heavy-setting varieties such as Halehaven and Redhaven have given a satisfactory degree of thinning. A small amount of an NPA formulation known as "ACP Peach-thin 322"* was available in 1955 for grower trials and it will likely be available this spring.

The best time for application of NPA sprays seems to be two to five days after full bloom or as the petals are going off. Sprays of NPA up to a month after bloom will reduce fruit set of peaches. However, these

*ACP Peach-thin 322 is manufactured by American Chemical Paint Co., Ambler, Pa.

later applications have resulted in leaf injury and stunted growth when used at concentrations high enough to thin. Also the later applications would not accomplish the benefit in fruit size that one gets by thinning at bloom time or shortly after.

Advantages of New Spray

Since the thinning action of NPA does not depend on a particular stage of bloom it would have some advantage over DN. The possibility of applying NPA a few days after bloom would often permit more accurate appraisal of the need for thinning than is possible with the approach of full bloom when the decision must be made on a DN application.

With NPA, as with the other materials mentioned, some erratic results have been obtained. These seem to be associated with differences in tree vigor and weather conditions under which the applications are made. Work is continuing with this and other thinning materials in an effort to evaluate these conditions so that the grower can have reasonable assurance of an acceptable thinning job. THE END.

FRUIT GROWERS!

We are looking for factual accounts of personal experiences in irrigation of tree and small fruits for our coming June Irrigation Issue. Send letters, and, if available, photos. Regular author payment. Address contributions to Richard T. Meister, Editor, AMERICAN FRUIT GROWER, Willoughby, Ohio.

NEW PEACH FOR THE NORTHWEST

YAKIMA HALE is the name of a new peach variety introduced to fill the need for a good peach of J. H. Hale quality ripening about 10 days earlier. This peach was developed by Grant Merrill of Red Bluff, Calif., and tested in the Yakima Valley by Frank Paganelli of Yakima.

Merrill states that the peach is of J. H. Hale breeding and is very similar, but without the many faults of the J. H. Hale. It is better colored than J. H. Hale and does not have the many culls, gums, split pits and other defects common to J. H. Hale. It colors well every year.

The Yakima Hale tree is larger than J. H. Hale and the blossoms are self-fertile so interplanting for pollination is not required.

Merrill states that the peach colors as well as J. H. Hale at Red Bluff, but for California conditions more color is desirable. In the Yakima area it colors better than J. H. Hale, so it will be introduced for that area. Patents have been applied for on the variety.

MARCH, 1956



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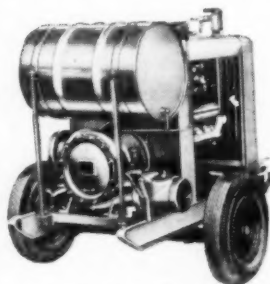
In 1955 most areas, country-wide, saw normal rainfall. But normal rainfall was *not* enough.

For instance, in a lower lakes region, there was a crucial 18-day summer period when *no* rain fell—five other periods, 11 to 19 days each, when there was no *effective* rainfall. Crops were noticeably retarded.

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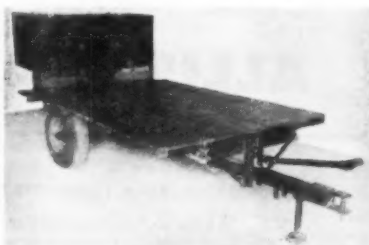
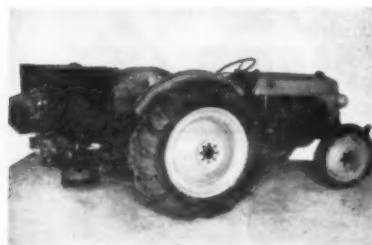
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Song of an Orchardist

My Suburbanite Friend

By Albert L. Mason

Albion, N. Y.

I know not the reason each year he succumbs
To the nurseryman's lure that he's blessed
with green thumbs.
Those catalog pictures in colors so real
Are the peak of perfection in selling
appeal.
No mention is made of fruit bugs and
diseases,
Or of sunscald and drought and the danger
of freezes.
He orders some apple trees, peaches, and
pears,
Unaware of delusions and subsequent
snarles.
They come in a bundle; he plants them
in rows;
And he waters them well with his old
garden hose.
That nurseryman said, "Heavy bearers
when small!"
So he buys bushel baskets and waits for
the fall!
Could be he was born with a hole in his
head,
'Cause he still looks for fruit on the ones
that aren't dead!
The aphids build up! There is fungus
galore!
Come the spring! Heaven help me! He'll
order some more!

INJECT NITROGEN

(Continued from page 13)

in sod cover or mulch, rolling coulters mounted ahead of each blade are recommended to assist in blade penetration and reduce tearing up of sod and roots by the blades. To help seal in the gas, some applicators have small packer or sprocket wheels mounted behind the blades.

Anhydrous ammonia is a positively charged alkali which has a strong affinity for the clay particles in the soil. This makes anhydrous ammonia the most leaching-resistant form of nitrogen. Because of this characteristic, ammonia is retained in all soils except sands and peat. It can be applied earlier than nitrate in any northern state, even in the fall.

Ammonia (NH_3) is changed to nitrate (NO_3) by the nitrifying bacteria at any soil moisture favorable to plant growth and at any temperature between 52 and 95 degrees F. These bacteria do not thrive well when in cold soils (below 50 degrees F.), in wet or compacted soils, or in acid soils below pH 5.5.

It is estimated that in heavy soils 10 per cent or more of the ammonia applied in any year will carry over and still be available for the next crop year. For this reason care should be exercised not to overfertilize with nitrogen, especially in apple orchards.

When ammonia is properly applied, there is no damage to fruit trees,

shrubs, or vines. The added nitrogen and the aeration resulting from the method of ammonia application counteracts the effects of any possible root pruning.

Because the use of anhydrous ammonia began with cotton, corn, and other field crops, the equipment was designed accordingly. Most applicator tool bars hold spring shanks to which the blades are attached. The number and spacings of the blades can be varied according to the particular needs.

Orchardists, small fruit growers and vineyard owners may have to adapt equipment to their own peculiar conditions. For small trees, small fruits, and vine crops, the equipment can go right down the middle between the rows. For large trees such as apple, some growers have placed an extension on the tool bar on one side only. The blades, placed 14 to 20 inches apart, are thereby enabled to go under the drip of the trees. The operator goes down one side of the row and back the other. Some operators in California have tool bars extended on both sides and need only go down the center of each row even for large trees.

Fruit growers have always been noted for their ingenuity in developing laborsaving equipment. With such an excellent and plentiful supply of reasonably priced fertilizer nitrogen available in an increasing number of localities, its use will almost certainly increase rapidly.

THE END.

DIAMOND BLACK LEAF MAKES PROMOTION

PROMOTION of George V. Dupont from manager of manufacturing operations to general manager of Diamond Black Leaf Company was announced by Loren P. Scoville, president.



George V. Dupont

Dupont succeeds John W. Kennedy, who leaves the Diamond Black Leaf organization to return to Diamond Alkali Company as sales manager of agricultural chemicals.

To his new post at Diamond Black Leaf, Dupont brings a broad chemical engineering background. A graduate of Purdue University, he joined Diamond Alkali in 1940 and has served the company in a number of important engineering capacities.



John W. Kennedy

Cuts Under the Overhang



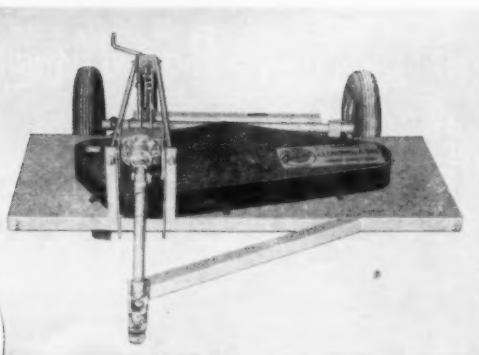
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FROM OLD TO NEW

(Continued from page 15)

cause, even in particular orchard cases. It seems that the older the orchard site, the more complex the problem.

Here are some of the causes that have been identified, with some suggestions for correction. None of them is sure to solve your problem, but you might try one or all.

Nematode-Resistant Rootstocks

Nematodes are of wide distribution in orchard soils, particularly old ones, and often inhibit growth of and kill young trees. They are of special importance in peach soils. If, after thorough checking with specialists, you are certain nematodes are one of your tree planting troubles, you at present have two choices. First, plant trees that are worked on nematode-resistant rootstocks. With peaches, and possibly other stone fruits, these may be Yunnan, Shalil, or Bokhara roots. Nurseries now supply peaches on one or more of these nematode-resistant rootstocks, though the supply is limited.

If these rootstocks are not available to you, or you wish to take extra precautions, you can try fumigation of the soil before planting. With present materials and methods it costs around \$30 per acre to fumigate. Some use dry and others liquid applications.

Methyl bromide (Dow) has proved especially effective. It is applied in 10x10-foot spots where trees are to be planted, using a one-pound can of the gas costing approximately 85 cents. The area must be covered with a gas-tight blanket for two days if temperatures are above 60°, and four to five days if temperatures are 50°.

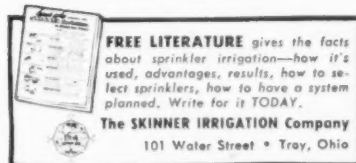
Another practical material is DD (Shell), which has proved its value in Tennessee, New Jersey, and other states where tried. With liquid it takes about 20 gallons per acre, and in the dry form around 300 pounds per acre. A new and highly promising material for nematode control which may be on the market in a year or two is Nemagon (Shell). It can be applied directly to soil around living plants with no harm.

If you are certain nematodes are no problem, but trees still grow slowly and often die on old peach orchard sites, try liming with high magnesium (dolomite) lime. Tests by the USDA under Dr. Leon Havis point to the benefit of liming. The beneficial effects of liming may be greater if your soil is well down on the acid side. From one to two tons



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MARCH, 1956

of dolomite lime per acre might give trees the boost they need. Whatever the effects upon the trees, you probably will improve the soil some by liming which will help in growing cover crops.

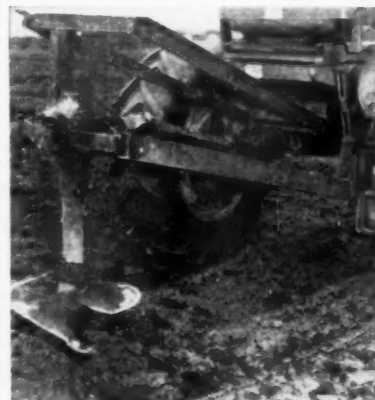
In New Jersey mulching new trees with corn cobs set on fumigated (DD) old peach land has helped them off to a quicker, more vigorous start. Other mulch materials didn't seem to give the effects derived from cobs.

In California, Dr. E. L. Proebsting is of the opinion that at least part of the replant problem in peaches is due to toxic substances produced from old peach roots in the soil.

Soil Deficiencies

Deficiencies of specific elements may be part of your replant problem. You should check all elements including some of the minor ones to see if soil is well-supplied. Phenomenal responses have been secured in cherry sections of northern Michigan where potash deficiency exists by applying a starter solution containing potash, according to George McManus, of Traverse City. (See AMERICAN FRUIT GROWER, March, 1955, page 63.)

In North Carolina and in Michigan zinc deficiencies have been discovered in several orchards. This follows the elimination of zinc in spray programs as growers change to newer organic materials. Young trees planted on old peach sites which were deficient in zinc are almost sure to grow slowly unless the element is supplied. Foliar sprays of zinc sulfate at 25 pounds per 100 gallons are more practical than ground applications for correcting this deficiency. THE END.



TREE HOLE DIGGER

Tree planting time is cut in half with hole digger built by Myron Dowd, Hartford, Mich., and mounted on John Deere M tractor. The auger is attached to the rear end assembly of an old auto, and is driven by tractor power take-off. The hydraulic lift of the tractor raises and lowers the auger, and it has a maximum depth of 2 feet. Dowd's auger is 18 inches in diameter, but larger ones can also be used.

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Pictured is the No. A103 heavy-duty lopper which you can see at your hardware or garden supply store. Also look for No. A105 ROCKET citrus lopper plus True Temper's full line of wood-handled loppers, pruners and shears. True Temper Corp., Cleveland 15, Ohio.

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The NEMATODE . . .

A Real Puzzler

What are the relationships between this vicious underground pest and its host plant? Studies now in progress may unravel this mystery and open the door to control

By A. L. NEAL
Cornell University

TODAY it is difficult to find a single crop grown which is not attacked by one or more species of nematodes.

To obtain maximum crop production the root system of the plants must be adequate to supply the proper quantity of nutrients to the growing plant. Nematode attack may interfere with the flow of nutrients from the roots by inducing the formation of giant cells or by killing the roots. Also the well-being of the plant may be affected by secondary infections which have gained entrance into the plant at the places where nematodes have punctured the roots.

There are many interesting biochemical problems involved in the relationship of nematodes to their host plant. For example: What are the chemical attractants which are excreted by the plant roots and guide the nematode to the roots?

Why is it that one particular nematode is quite specific with respect to

its host plant while others are less fussy about the source of their food and will attack a wide variety of plants?

Why is it that one species of a particular plant may not be injured by a certain nematode while other species of this plant are severely injured?

As an illustration of the specificity of certain nematodes we may consider two members of the *Heterodera* group, the golden nematode and the sugar beet nematode.

Cysts Contain Up to 400 Eggs

Both of these organisms are cyst formers. As the eggs develop within the female, she swells up to about the size of the head of a small pin and eventually dies. The outer skin of the female then becomes the tough membrane of the cyst in which may be contained from 40 to 400 eggs, each containing a living nematode larva. The larvae are therefore protected not only by the egg sac but also by the cyst membrane.

A rather unique relationship exists

between these nematodes and their host plants inasmuch as the larvae are stimulated to hatch out of their eggs when exposed to a chemical constituent excreted by the roots of their respective host. The golden nematode will hatch when placed in a solution obtained by leaching soil in which potatoes or tomatoes are growing. Tomatoes have been shown to be a host plant for this nematode and to excrete the same hatching stimulant as the potato.

The sugar beet nematode responds to exudates of the sugar beet but not to exudates of the potato or tomato. Likewise, the golden nematode will not hatch in solutions containing the sugar beet exudate. There is no evidence as yet to indicate whether or not these two stimulants are chemically related or are of entirely different chemical properties. In any event, this phenomenon indicates a marked difference in the metabolism of the two related nematodes.

The root knot and the sting nematodes may be used as examples of those which cause serious injury to a wide variety of plants. For example, strawberries, peanuts, corn, cotton, beans, celery, peas, and onions are among the crops which are hosts for the sting nematode.

Difficulties are being encountered in many areas throughout the world in replanting deciduous fruits. Quite frequently new plantings in established orchards or vineyards fail to grow normally and may eventually die.

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Such a condition has in the past been attributed to a variety of causes which include the excretion of toxic materials by the roots of the well-established trees which are inhibitory to the growth of the new stock, to imbalances of nutrients and microflora of the soil, and even to the breakdown of soil structure. The most recent cause for many replanting troubles has been attributed to nematodes which have been patiently multiplying over the years. The cause of "spreading decline" of citrus has now been attributed to nematodes.

The exact extent of crop damage is sometimes hard to estimate because of the lack of adequate controls in a particular infested area. In experimental plots where the soil has been fumigated before trees are replanted in an old established orchard where transplanting problems exist, one can



Many orchard replanting troubles are being attributed to nematodes. Photo, courtesy Dept. of Plant Pathology, Cornell University, shows golden nematode cysts on potato roots.

easily note the increased growth over replants in nonfumigated areas. To fumigate a standing orchard offers considerable difficulties since some nematodes have been found as far as 12 feet below the surface of the earth.

To kill the nematodes without injuring the standing orchard is most certainly a major problem to surmount. Fumigation of soil before plantings of vegetables has produced striking increase in crop yield, and in some instances is the only way in which continual crop production can be maintained.

In an effort to shed some light on the interrelationship of nematodes to their host plant, the departments of biochemistry and nutrition and of plant pathology of Cornell University are co-operating in studying the biochemical relationships of nematodes to their host plant. THE END

MARCH, 1956

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Photo Courtesy Caterpillar Tractor Co.

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The problem: Mites are not being checked by many popular new insecticides.

The answer: Early spraying with Sun Dormant Oil. It's a low-cost insecticide and mite-cide against which orchard pests have shown no immunity or resistance. It's highly effective when pests are at their lowest vitality...the most susceptible stage of their life cycle.

In addition, Sun Dormant Oil gives two extra advantages: less spray is needed for complete coverage; and, it is tolerance-free.

For further information, write to the SUN OIL COMPANY, Philadelphia 3, Pa., Dept. AFG.



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New small power-packed Crawler Type—6' long, 31/4' wide, 21/2' high. Ideal for hilly land, wet soil, etc. where wheeled tractors can't operate. Extra low for working under trees.

8.3 HP Wisconsin engine. Conventional transmission, differential, 3 speeds forward, 1 reverse. Hydraulic steering brakes and controls for implements. Implements available: heavy duty loader, rear-end scraper, dozer blade, 12" plow, discs, harrow, mower cultivator.

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Protect yourself
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Parathion, Aldrin,
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Approved by the U.S. Dept. of Agriculture for use in non-enclosed areas, this twin cartridge respirator and goggles make an ideal combination when spraying insecticides.

Respirator alone . . . \$575
Goggles alone . . . 190
Combination price . 750

Sent postpaid • Satisfaction guaranteed
Send check or money order to

CHICAGO EYE SHIELD COMPANY
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Chicago 12, Illinois

GEORGIA

(Continued from page 17)

other part of the state. Some of the largest orchards are located here.

This region has its own peculiar troubles such as cold injury to the trees, nematodes, and the phony peach virus disease. There are as many as three generations of plum curculio adults here per year, and its control is made much more difficult by sheer numbers. However, in recent years, the new organic insecticides have made control much simpler. Peach tree borers are troublesome since they are actively laying eggs from May until frost in late November. On the other hand, such diseases as peach leaf curl are practically non-existent, and the peaches are off long before oriental fruit moth has stopped feeding on the shoot growth.

First to Reach Market

The climate is influenced by the Atlantic Ocean to such an extent that during the more than 170 years this section has been growing peaches, there have been but four complete crop failures. This Fort Valley area produces some of the first peaches in the United States.

Every effort and practice is directed toward producing these peaches at the earliest possible date so that they are on the market at a high price level. The prevailing practice is to grow the trees quickly to bearing size and then to practically cut off the nitrogen supply. This results in very early fruiting with no delay in maturity due to the nitrogen effect, but it also means decreased production and lowered resistance of the trees to cold injury. From an economic standpoint, this practice is reasonable, but considering the physiology of the tree, it is most unsound.

In the South Georgia peach section itself, there is some spreading out of the older concentrated areas to the east, west, and south. The southerly expansion is made possible by the development of low chilling requirement varieties such as the Maygold and Southland. Tremendous losses from phony peach virus disease and Clitocybe root rot have forced the movement from such areas which have been in peaches since the early days of the industry. However, there has been a steady decrease of losses due to phony disease during the past few years. This is probably due to the widespread use of parathion which likely controls the vectors of the phony disease, and to eradication of wild plum hosts around the orchards and the removal of diseased trees within the orchards.

If any one factor could be said to

AMERICAN FRUIT GROWER

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Today chain saws are designed and manufactured to cut smoothly, rapidly and dependably with minimum labor.

The user who gives his chain saw the routine care any good power tool deserves will get efficient performance in return.

To know when efficiency is falling off, look for these "STOP" signs: Saw labors, overheats. Chain grabs, chatters. Chain bite is shallow, ineffective. Chain cuts in a curved plane. Sprockets fail frequently. Chain dulls rapidly. Chain breaks repeatedly.

These and other irregularities frequently can be eliminated or greatly reduced by minor adjustments or changes in filing technique.

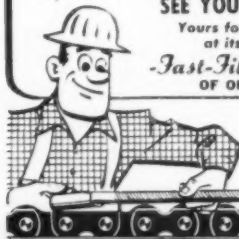
If you are not sure you can maintain your saw chain yourself, go to your dealer for service and advice. He understands chain saws, is equipped to apply his knowledge to your problem.

When you have a chain saw problem of any kind...

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Yours for saw chain at its best.

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Firecracker
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ORDER TODAY!

Six 48-ft. hanks

\$7.20 (West of

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Twelve 48-ft. hanks

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Send check or

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Big Protection Against
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Specially twisted fuse rope explodes firecrackers or cherry bombs at timed intervals in fields. Slow-burning—one 48-ft. hank covers 6 to 8 acres for 96 hours. Easy to use—insert firecracker fuses in rope strands, hang on tree limb or stick. Recommended by county agents and agricultural colleges.

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If your state requires permit, your nearest fireworks dealer can supply details. Name of fireworks dealer near you on request.

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in
Seven Diameters
1/4" to 3/4"

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Nuts

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SOIL TYPE	TIME	REQUIRED	SOIL TYPE
SANDY	10	10	SANDY
SANDY LOAM	15	15	SANDY LOAM
LOAM	20	20	LOAM
CLAY-SILT	25	25	CLAY-SILT

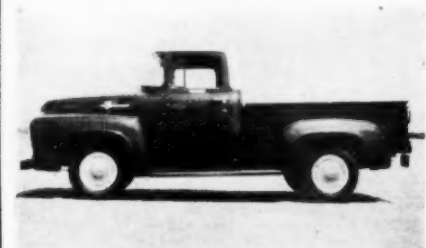
We have been using a simple slide rule to guide our soil applications, and it has worked like a charm. We've long needed an accurate, sensible guide such as this, and it has made our orchard work much easier. You can have one. They are not expensive. Just write to C. LaMotte, LaMotte Chemical Products Co., Towson 4, Baltimore, Md.

Better Light



I have begun using the new type lantern pictured above. Its simple construction and powerful illumination are ideal. Equipped with a new-type battery which lasts twice as long, this new light is splendid for night orchard spraying. Write Charles Balz, Sales Manager, Burgess Battery Company, Freeport, Ill., for details, or just send him \$11.95 and you'll get your Burgess lantern by return mail.

'56 Ford Trucks



The new trucks are becoming as attractive as the new cars. The '56 Ford truck line incorporates a new concept in truck design—styling plus rugged utility. The '56 Ford trucks are all equipped with wrap-around windshields and the important safety features found in their '56 cars. Mechanically the models are vastly improved. All are equipped with a 12-volt electrical system, and horsepower on all engines has been increased to provide greater power and efficiency for any type

- Brush Sheddar
- Orchard Lantern

of orchard work. You'll want to see the new trucks at your Ford dealer, or write Walter Blanchard, Ford Div. of Ford Motor Co., P.O. Box 608, Dearborn Mich., and ask for their booklet on the '56 line.

Full Commercial Line



No matter how mechanized fruit growing becomes, we are still going to need hand pruners, and the ones pictured above are among the best. Write Justin Smith, Seymour Smith & Son, Inc., Oakville, Conn. today for full descriptions.

More Profits—Less Cost



Western New York growers along Lake Ontario have found a new brush shredder that makes the removal of cuttings easy and cheap. Several growers estimate they save 40 per cent on the annual pruning job. In other words, the new shredder pays for itself in one season. Made to last and orchard-tested, the Brillion shredder fits any tractor.

Growers report that shredding their prunings into the orchard floor improves soil fertility. In orchards where the shredder has been used for three seasons the soil retains a higher percentage of moisture, which of course means better size. Write Joe Ecker at the Brillion Iron Works, Brillion, Wis., for full details.

MARCH, 1956

Phix^{*} THE ANSWER TO YOUR SCAB PROBLEM



- **PROVEN**—in extensive experiment station tests and in commercial orchards.
- **HIGHLY EFFECTIVE** as an eradicant on an after-rain schedule and as a protectant in combination with glyodin or captan.
- **CONVENIENT** and **ECONOMICAL** to use.
- **MIXES EASILY** with water.
- **COMPATIBLE** with most spray chemicals.
- **SHELF LIFE** unlimited in a dry location.
- **PHIX** is a dry, concentrated, organic mercury fungicide, usable in hydraulic or concentrate sprayers.

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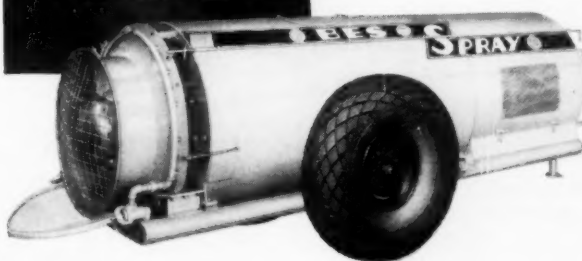
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ALL NEW MODEL 580

— 500 gal. tank, 80 gpm



More Air... More Horsepower... Bigger Fans...

New, powerful engines (both water — and air-cooled) and bigger fans give the '56 BES-SPRAY faster coverage, more air volume at lower engine speeds... greater economy!

6

NEW MODELS

a size to fit your orchard — exactly!

- ...from 200 to 500 gal. tanks
- ...from 20 to 80 gal. per min.
- ...plus new protective coated tanks

Before you buy any sprayer ask your BES-SPRAY dealer for a demonstration.

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USDA accepted protection against Systox, Parathion, TEPP, Aldrin, Chlordane, etc.

Spray safely with Willson Agri-Tox, the universal respirator for handling and applying toxic farm chemicals. Write for bulletin, prices and name of your nearest distributor.

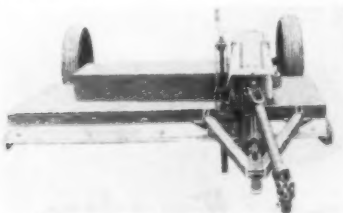


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Brush Disposal Time Cut In Half

WOODS ROTARY CUTTER FOR BRUSH SHREDDING AND MOWING

Mr. Albert J. Livezey of Barnesville, Ohio told the 16th Annual Meeting of the Ohio State Horticultural Society of actual results with his Woods Rotary Cutter. He said, "We have no exact record of time saved but we feel that at least half is saved. While we have had only one season's experience, we feel that a Woods Rotary Cutter for brush disposal in the orchard is one of the 'finds' of our day. We have never, I believe, found anything about which we are so enthusiastic."



Machine shown is Offset Model 80. 12 other models—42" to 114" cut.

"Its use is not limited to brush disposal. It's the 'cut 'n' mow' for orchard mowing." "Two or three farmers here have said that this Rotary Cutter is the best machine on their farms. The general farmer has many uses for this cutter. Corn stubble or corn stalks left after picking can quickly be put in shape for plowing or disking."

For a complete copy of Mr. Livezey's talk, send the coupon below.

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22603 South Fourth Street
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Please send me Mr. Livezey's talk

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STATE NEWS

Continued from page 19)

mercial plantings of hardy pecans of good quality. The two leading varieties being grafted and planted are Major and Green-river.

130 MILLION BUSHELS A YEAR

"Today the nation's commercial apple orchards are capable of producing 130 million bushels a year when we have a good crop in all areas," Fred W. Burrows, executive vice-president of the International Apple Association told eastern members of the New York Horticultural Society who met recently at Kingston.

"Barring disaster, the nation's present apple production potential may slide only a little during the next five years and may be on the upgrade 10 years from now," he predicted. "The heavy plantings in the last four or five years will not produce sufficient tonnage to compensate for removal of old trees over the next five years. After that period the cycle may change."

"The two big unknown factors are 1) the increased production per tree due to better care, methods, materials, and machinery; and 2) the amount of damage, especially to young trees, in the Northwest by the extremely low temperatures in November before the trees were dormant. This latter factor is very important in considering future production in view of the heavy plantings in the Northwest."

Burrows urged growers, "Plant apple trees today and tomorrow. Renew your orchards. Get your 'factory' young and productive again and keep that factory young and productive by systematically planting trees so that 25 to 30 per cent of your acreage is always below 10 years of age."

Strawberries are also on the increase in Kentucky, explained W. W. Magill, extension horticulturist, University of Kentucky. He pointed out that the recent cuts in burley tobacco acreage are encouraging many small farmers to plant an acre or two of strawberries. Eastern Kentucky now has 3,000 acres of berries where less than 100 acres grew five years ago.

Among new varieties attracting grower interest are Tennessee Beauty and Pochontas. Heavy fertilization with phosphorus and potash has pushed many a berry field up into the 400-crate class. The use of captan for rot control is another boon to berry growers.

New officers include Frederick Beyer, Paducah, president; Boynton Merrill, Henderson, first vice-president; Wendell Van Hoose, Paintsville, second vice-president; George Miller, Louisville, third vice-president, and W. W. Magill, Lexington, secretary-treasurer.

PEACH PRUNING FIELD DAY

Kentucky's annual Peach Pruning Field Day will be held Friday, March 16, at 10 a.m. in the Frank Street orchard at Henderson. (See article on Frank Street's pruning methods on page 44 of this issue.—Ed.)

Growers come from as far away as South Carolina to see the peach pruning experiment conducted by W. D. Armstrong, of the University of Kentucky, and now in its 16th year. You're invited too—but bring along your boots, raincoat, and "heavies," as the program is held outdoors. Free ham dinner!—W. W. Magill, Sec'y, Lexington.

Outstanding Growers Honored

COLORADO—The naming of the outstanding apple, peach, and cherry growers of 1955 high-lighted the annual meeting of the Western Colorado Horticultural Society.

Outstanding apple grower is Joe Shanks, Glenwood Springs, whose orchard of 3,000 bearing trees produces an average of 15,000 bushels a year. He has developed a large cider and apple butter business and has developed markets where there were none before. A cold storage on his ranch has a 6,000-bushel capacity.

Outstanding peach grower is Peter A. Neuberger, Grand Junction. His orchard, built up from a poor, run-down farm, pro-



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To Make HIS Orchard Thrive
in 1956

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Irrigation Pumping Units Sold Thru Distributors Well Qualified to Engineer a System Best Suited to YOUR Needs.

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Eschelman Tractors, Tillers, Riding Rotary Mowers for Better Lawns and Gardens. Advertised in GARDEN HOUSEKEEPING. Thousands of Satisfied users. Amazing savings. Write for Free Literature. **ESHELMAN CO., Dept. #153, 109 Light St., Balto. 2, Md.**



2 to 8 HP



New officers elected at the 101st annual meeting of the New York State Horticultural Society include (left to right) Abram Van Alstyne, Kinderhook, president; Don Dalrymple, Lockport, secretary; and Rolland Reitz, Rochester, vice-president.

duces 400 bushels of packed peaches per acre.

Outstanding cherry grower is Earl V. Hadley, Paonia. He produces between 15 and 20 tons of high-quality Bing and Lambert sweet cherries.

New officers include Wayne Cooper, Olathe, president; Paul Hofer, Paonia, first vice-president, and Franklin Check, Grand Junction, second vice-president.—Raleigh B. Flanders, Sec'y, Grand Junction.

President Re-elected

VIRGINIA—E. M. Jones, of Washington, was re-elected president of the Virginia State Horticultural Society. New members of the board of directors include Dr. Wesley P. Judkins, Blacksburg; W. W. Martin, Middlebrook, and C. Purcell McCue, Greenwood.—John F. Watson, Sec'y, Staunton.

Irrigates Strawberries

TENNESSEE—At the Golden Jubilee meeting of the Tennessee State Horticultural Society, Irvin Fly, of Milan, related his experiences with strawberry irrigation. In 1954 he harvested from a 4.7 acre planting, 1,943 crates of berries which had been watered five times the previous growing season, a very dry one. His neighbor had 12 acres and followed almost identical practices as Fly's, except he did not irrigate. His yield was 56 crates from 12 acres. Fly figures it costs around \$300 an acre to bring a berry field up to harvest.

Officers of the society are J. Blaine Donoho, Portland, president; H. H. Ard, Portland, first vice-president; Henry L. Levy, Brownsville, I. T. Elrod, Clinton, and Ray Appleton, Nashville, sectional vice-presidents, and A. N. Pratt, Nashville, secretary-treasurer.

Flood Damage

CALIFORNIA—A third of the 5,781 bearing acres of cling peaches in Sutter County has been lost as the result of northern California floods, a survey by the California Canning Peach Association has revealed.

An estimated 1,945 acres were lost. Another 338 acres were listed as "probably lost," and more were listed as subject to possible loss.

Six months of bitter labor dispute in the Sebastopol apple industry was culminated January 28 when 300 AFL Teamsters approved a new contract with the Sebastopol Co-operative Cannery. The cannery was one of 12 plants struck last August.

Immediately the Sebastopol Apple Industry Committee, representing the other struck plants, condemned the cannery's action.

"This is the action of a small group of
(Continued on page 62)



Up a tree about PESTS?

USE **CHIPMAN**
DUSTS and SPRAYS

You can depend on Chipman sprays and dusts to do a good job! They are backed by over 40 years of manufacturing experience. Each product is made under the most careful chemical control and supervision, and all products are thoroughly tested in the field.



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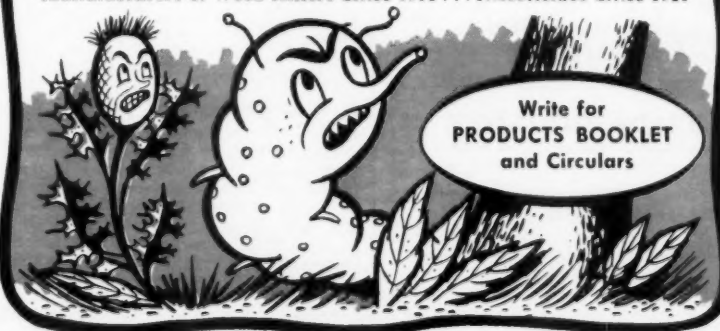
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Today, hydrocooling is the recognized method of increasing the saleable life of fruits and produce from grower to market. In this field of hydrocooling, the FMC Stericooler stands as the undisputed leader. An FMC Stericooler installed in your plant is on the job constantly to retard decay — cut trimming losses — protect produce from transit decay — deliver produce garden fresh and fruits tree ripened. Get the new 1956 FMC Stericooler hydrocooler! Compact metal construction... increased cooling capacity... new low price... and available in 5 capacities!



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CALENDAR OF COMING MEETINGS & EXHIBITS

Feb. 28-Mar. 2—Iowa Fruit and Vegetable Schools: Feb. 28 at Davenport; Feb. 29 at Burlington; Mar. 1 and 2 at Council Bluffs.—Glenn Raines, Sec'y, Des Moines.

Mar. 1-19—Annual meetings of county fruit growers' associations in Wisconsin: March 1, Manitowish County, Lincoln Park Field House, Manitowish; March 2, Sheboygan County, City Hall, Plymouth; March 6, Calumet County, Chilton; March 7, Shawano County, Community Hall, Shawano; March 8, Outagamie County, Community Hall, Black Creek; March 19, Jefferson County, City Hall, Ft. Atkinson.—H. J. Rahmow, Sec'y, Horticulture Bldg., Madison 6.

Mar. 12-16—Tenth National Conference on Handling Perishable Agricultural Commodities, Purdue University, Lafayette, Ind.—N. K. Ellis, Dept. of Horticulture, Lafayette.

Mar. 15—North Jersey Fruit Growers' meeting, Far Hills Inn, Somerville.—E. G. Christ, Sec'y, New Jersey State Horticultural Society, New Brunswick.

Mar. 15-16—Vermont Fruit Growers' Annual Conference and Trade Show, Rutland Armory, Rutland.—C. L. Calahan, Ext. Hort., Burlington.

Mar. 16—Annual Kentucky Peach Pruning Field Day, 10 a.m., Frank Street Orchard, Henderson.—W. W. Magill, Ext. Hort., Lexington.

Mar. 22-23—Annual University of Minnesota short courses on fruits, vegetables, and ornamentals, with Fruit Growers' Short Course at 10:30 a.m. March 22 in Dining Room A, Cafeteria Bldg., University Farm, St. Paul.—C. Gustav Hard, Publicity Chairman, Dept. of Hort., St. Paul 1.

Mar. 27—New Jersey Apple Institute meeting, Fireside Restaurant, Mount Holly.—E. G. Christ, Ext. Hort., New Brunswick.

Apr. 5-7—California Grape and Tree Fruit League annual meeting, Ahwahnee Hotel, Yosemite National Park.—Association headquarters: 717 Market St., San Francisco, Calif.

Apr. 26-27—Shenandoah Apple Blossom Festival, Winchester, Va.

May 9-10—Annual Strawberry Festival, Stillwell, Okla. (probable dates).—Fred Le Crone, Dept. of Hort., Stillwater.

June 11-13—National Apple Institute annual meeting, Dennis Hotel, Atlantic City, N. J.—Truman Nold, Exec. Sec'y, 726 Jackson Place N. W., Washington, D. C.

STATE NEWS

(Continued from page 61)

selfish growers to obtain special advantages in marketing their product to the detriment of others," said their statement.—Neale Leslie.

Accepts Citrus Post

Walter Reuther, head of the horticulture department at the University of Florida for the past year, has taken up new duties as chairman of the department of horticulture at the University of California's Citrus Experiment Station at Riverside.

Dr. Reuther brings to his new post extensive experience in pomology, including 15 years' service with the USDA at Gainesville and Orlando, Fla., and Indio, Calif. He earned his Ph. D. at Cornell University.



Walter Reuther

Tri-County Meeting

OHIO—The first annual Tri-County Horticultural banquet for growers of Lake, Geauga, and Ashtabula counties in north-eastern Ohio was a big success. More than 125 growers attended the inaugural meeting. Through group action of the growers in these three counties, it is expected that larger and better fruit schools, tours, and exhibits can be arranged for the benefit of all growers.

Members of the board of directors elected at the banquet include Allen Sage, Char-

Don't Buy Single-Purpose Power Garden Equipment



Your Dollars Buy MORE in ROTO-HOE

There's no need to buy two, three, or more separate power garden tools. The "ROTO-HOE IDEA" makes available to you one basic power unit and a wide variety of "customer-proven" attachments. All are integrally designed to fit and work perfectly with the same 2 h.p. ROTO-HOE power unit; all are interchangeable in a few seconds; all are thoroughly "use-tested," available NOW!

Do as thousands of America's busy gardeners and farmers have done—use ROTO-HOE to keep your garden better and easier. Plenty of power, excellent tilling and between-row cultivating, prices so low they make the ROTO-HOE lines America's Best Values in power lawn and garden equipment. Complete ROTO-HOE rotary tiller only \$154.

NEW 22" Self-Propelled Twin ROTO-CUTTER

helps keep lawn velvet-smooth, has cone-to-sharpen twin spindle blades. Attaches in seconds, costs only \$49.50 to add to ROTO-HOE power unit or as a complete unit, ready to go to work for only \$133.50.

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Each installation of United Cork Companies' B.B. Corkboard is specifically planned for the requirements of the individual fruit storage area. And each installation is followed up by United Cork Companies' engineers to assure full satisfaction to the fruit grower.

You are invited to discuss your low-temperature insulation requirements with us.

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6 Central Avenue

KEARNY, NEW JERSEY

BRANCH OFFICES IN PRINCIPAL
CITIES

don; Clay Eddy, Jr., Chesterland; and Clement Craig, all from Geauga County. Lake County representatives on the board are Dave Dugan, Dick West, and Bud Poulson, all of Perry. Ashtabula County representatives are David Dean, Geneva; Joe Gruber, Harpersfield; and Donald Bowdler, Ashtabula.



Tri-County Horticultural Society officers include David Dean (right), of Geneva, president, and Allen Sage, Chardon, vice-president.

Grower Dies

ILLINOIS—H. H. "Witt" Lamer, of Cobden, died recently at the age of 79. He was a life member of the Illinois State Horticultural Society, having joined in 1913. One of the outstanding orchardists in the state, he was manager of the American Fruit Grower Orchard Co. and the Metzler Orchard Co. at Cobden from 1920 until 1952.—Harold J. Hartley, Sec'y, Carbondale.

Box-Pallets Favored

MICHIGAN—The Michigan State Horticultural Society held its 85th annual meeting in the Civic Auditorium in Grand Rapids with more than 5,000 in attendance.

One of the important panel discussions of the meetings was on the use of box-pallets in harvesting and handling fruit. Prof. H. P. Gaston, Michigan State University, conducted the panel and Dr. J. H. Levin, Michigan State, served as moderator. L. P. Pettitt, Cherry Growers, Inc., Traverse City; W. E. Hays, Gerber Products Co., Fremont; John Schaefer, Schaefer Orchards, Sparta, and Russell Smeltzer, Smeltzer Orchards Co., Elberta, told of tremendous savings in labor costs by using box-pallets. In some cases, they agreed, the fruit was of better quality because of less bruising.

Another top-notch panel discussion by growers led by Robert Palmer of the Sodus Fruit Exchange was on irrigation. William Teichman, Sodus, showed the value of supplemental water in the spring season. He felt that water applied to a bearing Montmorency cherry block on April 20 and 21 resulted in saving his 1955 crop during the May 9 freeze. These irrigated trees showed very little injury, while fruit on unirrigated trees in a more favorable location on his farm were severely injured.

Russell Tidey and Charles Zoller, of Benton Harbor, presented the value of irrigation in strawberry production. Zoller has had good experience with plastic pipe in his irrigation system.

Cliff Hanch, of Dewey Lake, explained how he lined an irrigation pond with polyethylene after all other means of trying to make the pond hold water had failed.

Rodney Bull, of Bailey, explained how irrigating Amber Gem peaches in late July and early August increased both size and yield significantly.—A. E. Mitchell, Sec'y, East Lansing.

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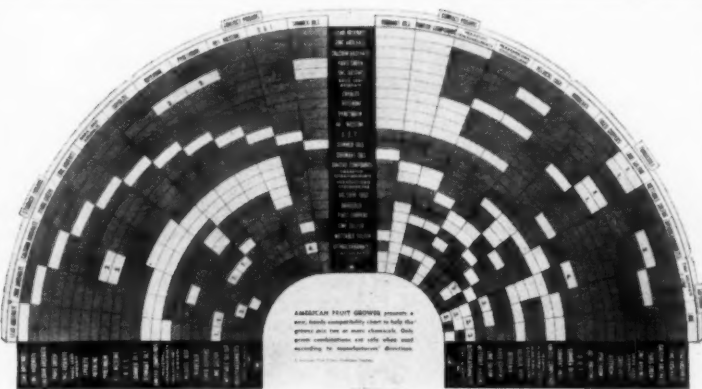
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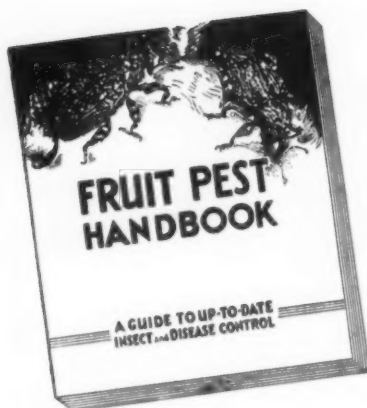
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The Connell's neat roadside market in Florida boasts a large parking area.

WISCONSIN APPLES Sell Like Hotcakes in Florida

Wisconsin grower opens retail market in Sunny South
—finds it's an ideal place to sell northern apples

MOST of the year, 145-acre Connell's Sunridge Orchards in Menomonie, Wis., is a busy, active place. But come December 1, Mr. and Mrs. William F. Connell leave the orchard—the largest in northwestern Wisconsin—and head south.

Their destination, and winter headquarters, is their Wisconsin Apple Market near St. Petersburg, built in 1953 as a retail outlet for their fine-quality apples.

Why a Southern Location?

Why Florida? For years the Connells had dreamed of establishing a series of apple markets throughout Wisconsin and Minnesota. However, this would have meant purchasing land in scattered areas, building a number of small markets, and hiring a large staff of sales people. Then, too, it gets cold in Wisconsin in the winter!

The spring of 1953 found the Connells touring Florida in search of property. They found it between Clearwater and St. Petersburg on New Highway 19.

The building is 20 x 60 feet, concrete block, with a flat roof. Overhead doors which tilt out instead of into the building serve also as awnings. An office and restrooms are included in the building.

The first year several truckloads of apples were shipped at picking time to a commercial cold storage in near-by Tampa. The fruit was packed in export tubs with cushion pads on top. Midway through the tub another cushion was placed and a corrugated pad on the bottom of the tub. The apples arrived in good condition after the 1,550-mile ride.

The export tubs served very well as disposable units, and were readily resold at 30 cents each with cover and cushion.

"Favorites" Asked For

"Our first season we shipped only three varieties, and our customers were not satisfied," Connell relates. "The area is a mecca for retired northerners from Maine to Montana, all of whom asked for their favorite varieties from home. Before we were in business a week, we had bought a supply of every variety available on the open market. At one time we were selling 14 varieties!"

Fruit is sold in bulk, as well as in polyethylene bags of various sizes and half-bushel and bushel containers. The average sale is 5 pounds or less. The Connells also sell apple cider purchased from an outside source. This year they expect to add processed apple products and Wisconsin cheese.

THE END.



Closeup of sign which beckons the motorist to the Connell market from either direction. Constructed of a single course of concrete blocks, sign is 6 feet wide at base, 9 feet wide at top, 12 feet high. A flower bed is at each end of sign.

AMERICAN FRUIT GROWER

FUNGICIDES FOR INSECT CONTROL?

Combination fungicide-insecticide sprays are giving excellent control of rosy apple aphid, curculio, codling moth

By H. W. THURSTON, Jr.

APPLE growers often have real difficulty in choosing a fungicide. In the end, their choice depends on several factors. First and foremost is the effectiveness of the fungicide against scab. Second in importance is probably the factor of safety.

Also important is the cost factor—not cost per pound, but cost per 100 gallons, or per tree, or per acre. Returns are a big factor in determining cost. If one fungicide has a tendency to produce higher yields of quality fruit than another fungicide, it may turn out to be cheaper even though it may cost more per pound.

In the past few years research has shown that fungicides differ in another very important way. They can actually contribute to the effectiveness of the various insecticides used with them. This is a definite bonus effect.

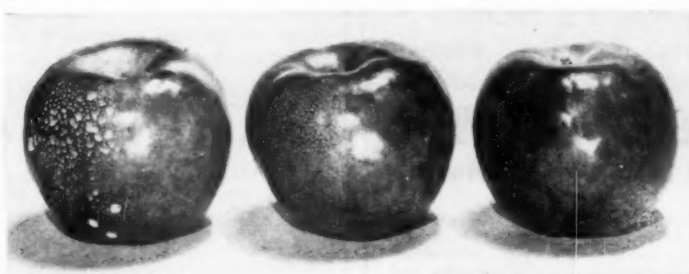
Dr. W. S. Hough, of the Virginia Agricultural Experiment Station, re-

ports the curculio and the insecticide is methoxychlor. The fungicides used in his test ranked as follows: glyodin, ferbam, sulfur, and captan, with glyodin and methoxychlor giving the best control.

A similar test where dieldrin was the insecticide gave a ranking order of glyodin first, followed by captan, sulfur, and ferbam in that order. These tests involved 14 varieties of apples.

In West Virginia Dr. Clancy reports similar results with ryania used at 4 pounds with captan and again with glyodin for codling moth control. He reports codling moth entries per 100 apples as 0.1 with glyodin and 4.3 with captan. At the same time there were twice as many codling moth stings on the ryania-captan apples as on the ryania-glyodin combination.

Such reports as these may only indicate unsuspected incompatibilities, or they may be a reflection of the differences in types of deposit produced by the combinations in



Various fungicides leave different types of residues. An even, transparent residue, as on apple at right, increases the effectiveness of the insecticide used with the fungicide. With an uneven, blotchy residue, bugs can eat or lay eggs between the drops. Big deposits of residue flake off and are more easily removed by weathering than is a

smooth film. Also the possibility of fruit injury is greatly increased by the concentration of toxicant in big spots. Red color development is helped by a smooth residue, as big drops prevent sunlight from penetrating the fruit. Heavy residues also encourage pest build-up by eliminating natural predators.

ports that various fungicides combined with malathion (1½ pounds of 25 per cent material) gave widely different results in controlling rosy apple aphid. For example:

Check trees (no malathion).....414 aphid clusters
Malathion with captan.....200 aphid clusters
Malathion with lime sulfur.....526 aphid clusters
Malathion with glyodin-mercury.....no aphid clusters

This means a range from perfect control with malathion and glyodin to complete lack of control with lime sulfur and malathion.

From Massachusetts Agricultural Experiment Station entomologist W. D. Whitcomb come reports in the same vein. This time the insect is

question. (See photo.) Pending further confirmation, here is at least food for thought in planning a spray campaign.

THE END.

CONCENTRATE SPRAYING

Purdue University has issued a new bulletin, "Concentrate Spraying in Indiana Orchards," based upon seven years' research with concentrate sprayers. Experiments were conducted in the University's horticultural apple orchards and in commercial peach orchards at Vincennes by C. L. Burkholder, Eric C. Sharville, and H. O. Deay. The bulletin compares conventional and concentrate spraying, and tells just how to do concentrate spraying. For a copy of Mimeo ID-2, write to the Agricultural Extension Service, Purdue University, Lafayette, Ind.

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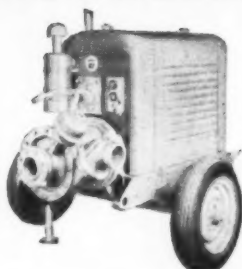
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NEW PEAR VARIETIES

NEW YORK state pear growers have been urged to try other varieties besides Bartlett, which makes up the bulk of the pear production, with Clapp Favorite and Bosc being grown to a limited extent.

Other varieties which appear promising, according to Robert C. Lamb, Cornell fruit breeder, include:

Chapin, an open-pollinated seedling of Seckel, with medium-sized, juicy fruit and very good flavor, can be picked over a long season starting in August and yields well.

Two Bartlett seedlings, one of which is a possible replacement for Clapp Favorite, as it ripens with that variety but keeps longer. The other ripens a week later than Bartlett, is very productive.

Gorham, a Bartlett type, ripens two weeks after Bartlett, is being grown more and more extensively.

Good late varieties are **Ewart**, which ripens about October 1, and **Dumont**, October 15. Ewart is a large, productive variety that stores well and is one of the best quality late pears. Dumont is very attractive and has high quality. It is recommended chiefly for home use until more is known about its yielding quality.

Planting stocks of these and other new pears are available from the New York Fruit Testing Association at Geneva. Two or more pear varieties should be planted together to insure proper pollination and a full crop, advises Lamb.

PREPACKAGING HISTORY

A COMPREHENSIVE "History of Prepackaging Fresh Fruits and Vegetables" has been completed by Glen H. Mitchell and Ralph W. Sherman, of the department of agricultural economics and rural sociology at Ohio State University. Copies may be obtained by writing to the Mailing Room, Ohio Agricultural Experiment Station, Wooster, Ohio.

FRUITWORMS

(Continued from page 19)

the top 3 inches of soil where they change to the inactive or pupal stage. They then change to adults and remain in the soil until the following spring.

CONTROL. Raspberry fruitworms may be controlled by applications of dusts or sprays containing rotenone. The first application should be made one week after the first blossoms appear. Repeat the applications twice at 10-day intervals. On each acre use the insecticides at the rate of approximately 30 pounds of a dust containing 1 per cent rotenone or 150 gallons of spray containing 34 ounces of 4 per cent rotenone-bearing root, or 27 ounces of 5 per cent root, or their equivalent, in 100 gallons of water. —D. J. Caffrey, USDA

The Fruit Pest Handbook series, No. 1 through No. 44, is now available in handy pocket-size booklet form at \$2 a copy. Send remittance to AMERICAN FRUIT GROWER, Willoughby, Ohio.

VARIETY NOTES

Send us your observations on the performance of varieties in your orchard. Information on how new varieties perform under varying climates and conditions is important for all fruit growers and can prevent costly planting mistakes. Address your letters to Editor, AMERICAN FRUIT GROWER, Willoughby, Ohio.

FOUR promising new apples—Melrose, Crandall, Ruby, and Franklin—have been propagated on Malling VII rootstocks by dwarf tree nurseryman Lorne J. Doud, of Wabash, Ind. Here are his observations:

"Melrose finishes rather poorly, although it does have good size and quality. Crandall also lacks color and size. I find there is a tendency for growers to compare these later varieties with Red Rome on color, size, and finish. If they aren't better than Red Rome, they aren't much interested, and apparently none of them so far is better. Ruby is not the bright red color of Red Rome, being more like that of Turley. Anyway, it is hard to find growers who are willing to plant more than a tree or two of these newer varieties.

"Franklin with us last year got very good color. It is probably the highest quality apple we have. However, it isn't much later than McIntosh, and it is very tender and perishable. If I had a little ground, I would be willing to plant 20 trees each of Franklin, Melrose, Ruby, and Crandall."

Which Malling Is Best?

Dave Perrine, whose apple orchard is at Centralia, Ill., reports this experience with Malling rootstocks:

"Of the few Mallings we had tried as replants in our blocks—Mallings I, XIII, and IX—none looked too promising. So we switched to Malling VII, and these small replants came through the drought summers of '53 and '54 with a low percentage of mortality, so it must be tough.

"Have just begun a few trees of some of the MM series. We like the looks of the foliage, as it's big and husky, which is a contrast to some of the M's."

A Note on the Edgewood

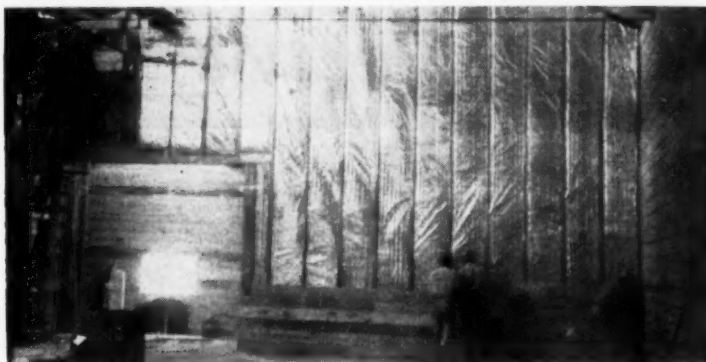
H. L. Lantz, of Iowa State College, reports that few growers like the Edgewood apple. This variety ripens three weeks after Jonathan. It does not develop satisfactory red color under Iowa conditions.

Winter-Hardy Apricots

The New York Experiment Station is testing two apricot seedlings which show promise of meeting the requirement of winter hardiness necessary for regular cropping in the north. Now known as NY 345 and NY 346, the hardier of the two . . . when that is determined . . . will be named and introduced commercially.

Planting stocks of the two apricots are available for trial from the New York State Fruit Testing Association at Geneva.

MARCH, 1956



Orchard workers install multiple aluminum insulation in fruit cold storage at Rolling Hills Orchards, Inc., Emmett, Idaho. Owned by Hall, Haas, & Vessey, Los Angeles brokers, this 60 foot clear span palletized storage pre-cools 5000 boxes of fruit every 24 hours. Whether for a small or large cold storage, this proven method of construction quarters capital outlay needed, with no sacrifice of quality or insulation value. Want to know more about both insulation and refrigeration? Write—

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170 ACRE ORCHARD FARM, 40 ACRES OF apples, 6 to 18 years old, 5 acres of peaches 6 years old, 5 room house, 7 other buildings on farm. Including the following on concrete highway, two story 30 x 60 cold storage, roadside market, packing shed, cider press, grader, 5000 field and storage crates, tractor, 2 sprayers, truck, air pruners and other equipment. If not sold would consider operator on percentage. Must quit owing to health and age. WATERS ORCHARD, Pearl, Ill.

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ELECTRIC INCUBATORS—ALL SIZES. BIG hatches turkey, pheasant, goose, duck, chicken eggs. Illustrated circular. GOSHEN POULTRY FARM, Goshen, Indiana.

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HAVE YOUR OWN AIR CONDITIONED cold storage. Consult experienced engineering concern specializing in Fruit Storages. Postal card reply. INDUSTRIAL ENGINEERING CO., 67 Hurlburt Ave., Akron 3, Ohio.

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EARN UP TO \$400 MONTHLY RAISING Angora, New Zealand rabbits. Plenty markets. Particulars free. WHITE'S RABBITRY, Jack-son, Mich.

PLANT GOOD STOCK

Disease-free, true-to-name stock is available—avoid the costly mistake of NOT using it

AN orchard is no better than the trees which were planted. Many years ago fruit growers were plagued by trees which were not true-to-name. Little by little the scientists have unraveled the difficult problem of how to identify young fruit trees by variety in the nursery.

All reliable nurseries now have their trees inspected at reasonably frequent intervals, if not annually, so that the chances of securing trees which are not true-to-name are almost entirely removed. For much of this, the fruit industry is indebted to Drs. J. K. Shaw, O. C. Roberts, and A. P. French of Massachusetts and W. H. Upshall of Canada. These men pioneered in true-to-name nursery stock and set up the program on a national basis.

Also, major insect and disease troubles are under fairly good control, and inspection of nursery stock for freedom from pests is now assured.

Virus-free Plants

The matter of freedom from virus has been more complex, but here too the scientist and the regulatory agencies in the various states have responded admirably. It is possible to identify diseased trees by grafting suspected plants onto "indicator" plants which show the presence of virus. It is now standard practice to index cherry trees, plum trees, and strawberry plants. Other fruits will in time be included.

Little by little the program has taken hold until now no reliable nursery and no state with proper certification would think of releasing stock to the grower which was not free from these troubles. All one need do in order to take advantage of these advances is to deal with reliable concerns.—H. B. Tukey.

Motorists will be attracted to your roadside market—provided it is good-looking and well located. Working drawings for an attractive, easy-to-build stand are available for \$1.50 from AMERICAN FRUIT GROWER, Willoughby, Ohio.

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Yours for
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Brimming over with fruits, nuts and berries it makes a magnificent centerpiece. Filled with rolls and biscuits, it's a truly different bread basket. Hanging on your wall it's a colorful flower vase.

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AP-3

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Nut and Shade Trees, Flowering Shrubs, Evergreens, Grape Vines, Dwarf Apple Trees (on malling 1 and 7 stock). Over 80 years growing and distribution service to planters guarantee satisfaction. Our FREE 60-page catalog illustrates, describes complete nursery line at reasonable prices. Write today.

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American Fruit Grower

• Fruit for Health •

RICHARD T. MEISTER, *Editor*
H. B. TUKEY, *Associate Editor*

The Rugged Individualist and the Agricultural Surplus

ECONOMISTS keep preaching the doctrine of supply and demand. Especially do they seem to want it to apply to agriculture. Yet they shut their eyes to other areas of the economy.

Thus, when the automobile industry closes down in order to "adjust supply to demand," everybody calls this good business. Further, the laboring man promptly receives unemployment insurance.

The manufacturer does not pay for this—the general taxpayer pays. It is a form of subsidy, pure and simple.

Yet if anyone should suggest shutting down a few acres of orchard in order to "adjust supply to demand," there would be a tremendous howl—especially if the government paid the wages of some of the hired help and otherwise subsidized the operation.

We pride ourselves on being rugged individualists. In the light of some of these facts, is this the right terminology to use?

Russian psychologists learned long ago that an animal can be "conditioned by suggestion" so that he responds to certain stimuli. Using this system, you can train a horse or a dog to answer to your commands.

The human being can be taught similarly—witness brain-washing and the confessions of the torture chamber. But what we fail to recognize is that a man can be similarly trained by subtle propaganda.

Thus we hear constant praise of the rugged independence of the man on the land, as though it were always a virtue—even to suffer. And we are told that it is the job of the grower to produce and produce and produce—in abundance and in surplus.

Isn't it time we thought some of these things through again? Why not start a wave of thinking that praises the man who co-operates with his neighbor? Why not begin a program that commends the man who keeps inferior and surplus fruit off the market?

The general idea seems to be that to use up the surplus we need only wait until population catches up and eats it. This sounds to us like someone is going to have a lot of indigestion!

Statisticians tell us that by 1975—20 years from now—there will be more mouths to feed. This is about as much solace as the pulling of a drain plug is to a man drowning in a reservoir.

Progress in Strawberry Growing

FOR many years the USDA and several state experiment stations have been carrying on breeding work to get new and improved varieties of strawberries. This work has been very successful, so much so that at present all but three or four of the 25 leading varieties are from selections of known parentage.

More recently the emphasis has been on improved planting stocks. Beginning several years ago with the work of Dr. J. B. Demaree and Dr. George M. Darrow of the USDA virus-free stock plants of nearly all of the leading varieties have been found and indexed to prove their freedom from virus.

Following closely on the virus studies is the work to improve the root nematode situation. Both the root knot nematode and the meadow nematode can cause serious setbacks to strawberry plant growth and yield. Among the things which nurseries are doing to hold in check the nematode problem is to fumigate their soils before the plants are set. Also, planting

stocks in increasing quantities are being heat treated to kill the nematode that may be in the plants.

It is predicted that the average yield of strawberries will be increased from 50 to 100 per cent over that of 1950 as soon as growers generally use these improved planting stocks.

Fruit Growing is Such Fun!



Fruit Talk

Dr. T. Swarbrick, director of the new Scottish Horticultural Research Institute near Dundee, says that preliminary observations show that virus infection of fruit plants frequently comes from a "reservoir of reinfection" in hedgerows—often of unrelated species.

A nursery catalog from Arturo Ansaloni, Bologna, Italy, features such well-known American varieties as Jonathan, Rome, Starking, Richard, Delicious, Golden Delicious, Stayman, Grimes, Turley, York, Wagener, and Wealthy apples, and the Red Bartlett pear.

Writes friend Lester Boyd, of Three Oaks, Mich., with evident feeling, "The orchard has been bulldozed and burned up; a subdivision has been laid out and the first home built. It hurts me to see the old apple and peach trees burn. They were my friends in spite of all the poison and sulfur I poured onto them." The story is the same in many parts of the country as the city reaches out.

It takes some fresh, home-grown, little-known peaches and summer pears from trees in the garden, used at the end of a 3-hour dinner in the home of a wonderful friend and host, to fully appreciate why the connoisseur of fruits feels almost heartbroken at what the average palate accepts.

The bird problem in England is severe. Estimates are that 25 per cent of the entire fruit crop is devoured by birds.

On the other hand, orchard insect life in Europe, including flies and mosquitoes, is relatively non-prosperous judged by American standards. All of which adds to the pleasure of outdoor dining three meals a day.

Preliminary talk is for an International Horticultural Congress (XVth) in French Morocco or on the Riviera, spring of 1958, and Boston, Mass., (XVth) in 1961.

"Prosperity and happiness are not measured by the amount of money we receive for our services, but depend largely on what we have to show at the end of each year in wealth, health and usefulness" said George Ade to a group of young people at Purdue University in 1928.

Believe it or not, there are approximately 750 foodstuffs which have been frozen in one way or another, ranging all the way from breaded lobster tails to buffalo meat and pineapple cheese salad.

The cause of a great national industry is not best served by hasty judgment or an incomplete knowledge of the facts.

A weak fungus parasite (*Cytospora*) has developed strains that have become virulent and are attacking prune trees in southern Idaho in a form of twig dieback.

—H.B.T.

Coming Next Month

Berry and Small Fruits Guide

- How to Fertilize Strawberries
- Control of Berry Diseases
- How to Propagate Blueberries
- It's Easy to Prune Brambles
- Establish a Pick-Your-Own Berry Business

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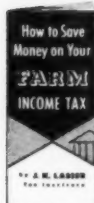
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